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# THE AMERICAN PSYCHOLOGIST

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# THE PH.D. PROGRAM IN EXPERIMENTAL PSYCHOLOGY AT THE UNIVERSITY OF VIRGINIA<sup>1</sup>

UNIVERSITY OF VIRGINIA, STAFF OF THE DIVISION OF PSYCHOLOGY

## ASSUMPTIONS AND ORGANIZATION

THE doctoral program in psychology at the University of Virginia is based on two fundamental assumptions. It is felt that, considering the current national scene, Virginia's maximal contribution to psychology as a science will be made by concentrating on a relatively restricted area and by keeping the training on an intimate student-instructor basis. To this end, graduate enrollment is limited to a total of approximately 15, and the major emphasis is placed on the experimental and physiological phases of study and research. While the program is thus uncomplicated in conception, narrowness of outlook is avoided, since the doctoral training of the senior staff represents the departments at Brown, Clark, Columbia, Ohio State, Princeton, and Wisconsin, and orientation courses are offered to supplement the specialization.

## DEGREE REQUIREMENTS

The basic requirement for the degree is that the student make satisfactory progress toward becoming a well-trained experimental psychologist. Hence the number of semester-hours passed is subordinated to a general standard of quality of achievement, and an overall impression of capability looms more important than a course grade. It is, of course, impossible to lay down a rigid schedule of years or courses that may bring every individual, of whatever capacity and previous training, to the desired level of development. But a description of a "typical" program of a "typical"

<sup>1</sup> The *American Psychologist* during the past few years has given a good deal of emphasis to the graduate training of clinical psychologists, with very little attention being paid to training for other areas of professional specialization. To offset some of that imbalance, I have asked the University of Virginia to describe its training of experimental psychologists, Teachers College to describe its program for students in the area of measurement, and Purdue University to describe its program in industrial. I have also delayed the publication of the paper describing the training of counselors at the University of Minnesota so that it could be included in this issue.—HELEN M. WOLFLE.

M.A. and Ph.D. student may be of help in indicating the kinds of formal hurdles that are usually involved.

### *First Academic Year*

*Semester 1.* Four courses. Decide on the area of Master's research and make the preliminary literature search; possibly work out the plan with advisor. Pass the first language examination for the doctorate, on the basis of undergraduate and summer study (October).

*Semester 2.* Three courses. Research: complete the literature search, formulate the problem definitely, perfect the apparatus and procedure, begin the collection of data. Pass the second language examination for the doctorate, if possible.

### *Second Academic Year*

*Semester 1.* Three courses. Research: complete the collection of data. Apply for advancement to Master's candidacy (October 15). Complete the language requirements for the doctorate, if not previously done.

*Semester 2.* Two courses. Research: do statistical analysis, write thesis (final form by May 15). Pass final comprehensive examination for the Master's degree.

### *Third Academic Year*

*Semester 1.* Three courses. Research: decide on the area of doctoral research, make the literature search, sketch the preliminary plans of procedure. Apply for advancement to doctoral candidacy (October).

*Semester 2.* Two or three courses. Research: complete the details of apparatus and procedure, begin collection of data. Pass the preliminary doctoral examinations (May).

### *Fourth Academic Year*

*Semester 1.* Audit such courses as desired. Research: complete the collection of data.

*Semester 2.* Analyze data, write dissertation (final form by May 1). Pass final examination for the doctorate.

It will be noted that summers are left free on this schedule. This allows some flexibility—for the student who must make up language or other non-psychology deficiencies, who has financial responsibilities, who is spending considerable time learning how to teach, who needs to broaden his cultural background, etc. Use of these periods may also allow the exceptionally prepared student to decrease somewhat the total elapsed time required for his formal training.

#### FORMAL COURSES

By offering certain courses only in alternate years, the staff of six is able to provide a total of 17 semester-courses in which only graduate students are enrolled, and 8 in which both graduate students and advanced undergraduates are enrolled. Some variation in the course pattern occurs from time to time, dictated in part by the specialized interests of the staff members.

The current catalogue listing includes the following courses open to graduates and advanced undergraduates: advanced experimental psychology (the students as a group design and conduct an original experiment), statistics, psychological test construction and administration, the learning process, child psychology, advanced social psychology, advanced abnormal psychology, and history of psychology.

Courses open only to graduate students are: experimental techniques and current technical problems (2 semesters; training in major instrumentation), advanced statistics and experimental design, physiological psychology, vision, audition, cutaneous senses, the chemical senses, space perception, action mechanisms (a study of action systems as typified in the non-auditory labyrinthine and associates reflexes), feeling and emotion, motivation, animal behavior, learning and behavior theory (2 semesters), theoretical psychology, and the teaching of psychology. This last course is a non-credit seminar on the problems of curriculum and course organization, techniques of presentation and evaluation, and other aspects of the academic profession; some guided practical experience is given.

A student's program can often be rounded out with considerable profit by the addition of advanced courses in such departments as biology, physics, mathematics, medicine (e.g., neurology, psychiatry, pharmacology), philosophy, or soci-

ology. The nature of this supplement depends upon the individual's particular pattern of research interests.

#### THE METHOD OF TEACHING

The fact that registration is so strictly limited is of inestimable value in permitting the seminar method of teaching to be exploited to the full. Inasmuch as no more than five or six new students are accepted each year, the enrollment in the typical graduate course approximates 10. The active participation of each individual, through the presentation and discussion of reports, enhances the development of the critical capacity as well as of skills of oral communication. The majority of the courses are organized around the experimental and theoretical literature, with the emphasis heavily upon original sources. In general, the goal of course work is more the achievement of critical evaluative power and a working comprehension of the scientific method than the accumulation of a repertoire of purely factual items. With the kind of contacts between staff and graduates that are inherent in a group of such favorable size, the tendency is to react as to a professional rather than a schoolroom situation.

#### EXTRA-COURSE TRAINING

The training taking place outside the formally organized classes is not inconsiderable. One valuable adjunct is the weekly meeting of the Journal Club. These informal get-togethers were originally instigated for the purpose of encouraging the students to share each other's reactions to current journal articles. Most of the meetings still center around a discussion of the latest number of some major psychological journal. Frequently, however, one of the students reports upon his research in progress, inviting suggestions and criticisms from colleagues and staff. Occasionally speakers from other departments of the University or from other institutions are available and the Journal Club program is kept flexible to accommodate these opportunities.

A second extra-curricular activity is the attendance at professional meetings. In addition to the annual APA convention and the sectional meetings, great emphasis is placed upon the spring meeting of the state association. The average graduate student will probably report his research to this group twice in his four-year career.

## FINANCIAL SUPPORT AND PHYSICAL FACILITIES

Financial assistance for the graduate student is in four forms. First, there are free fellowships, for which no work is required. No fixed allotment is assigned to psychology; the applicant competes for free fellowships with those in all other graduate departments. Second, there are service fellowships, under the control of the department, with stipends dependent upon assistance rendered in connection with undergraduate courses. Third, there are research fellowships, the funds for which are provided by research contracts with the Services. Fourth, there are appointments as student aides, with shop work and care of the animals required.

Thanks to the support of a sympathetic administration, the department's facilities for experimental training are now reasonably adequate. Remodeling during 1949-50 has provided a total of 18 research rooms and a well equipped animal laboratory. Considerable apparatus, including much of the electronic variety, is available. There are funds for additional purchase as the need arises and adaptations for specific problems can be made in the laboratory's own shop. Not the least of the resources is the cordial cooperation of other departments of the University. In many projects the hand of an electrical engineer, pharmacologist, physicist, or biologist can be seen.

*Received February 22, 1950*

# A TRAINING PROGRAM IN COUNSELING

RALPH F. BERDIE AND THEDA HAGENAH

*University of Minnesota*

**B**OTH the Division of Counseling and Guidance Psychologists of the American Psychological Association and the National Vocational Guidance Association systematically are studying training programs in counseling as a step in establishing professional standards and recognizing institutions qualified to offer such training. For several years, staff members of the Student Counseling Bureau at the University of Minnesota have taught a practice course in counseling, and the instructors during the current year believe that a description of the purposes of this course and the techniques used may be of assistance to those concerned with the general problems of training future counselors.

The course, as it stands today, is a result of ten years of evolution since its initial organization and supervision by E. G. Williamson and John G. Darley, who were primarily responsible for identifying the goals to be achieved. Since 1947, the course has been offered jointly by the authors, the director and the assistant director of the Student Counseling Bureau, one holding academic rank in the Department of Psychology and the other in the Department of Educational Psychology.

Graduate students who are trained in student personnel work at the University of Minnesota later find employment as counselors, teachers, and administrators in secondary schools, colleges, and universities. The practice course offered by the staff of the Student Counseling Bureau is planned primarily for those students interested in personnel work in higher education. In almost every case when these students have completed their training, they will have to be skilled interviewers with a sound knowledge of counseling techniques. They should be able to supervise the counseling done by others and should have sufficient background for teaching counseling to other counselors-in-training. The practice course is designed to provide the supervised practical experience necessary to develop these skills and teach this information.

In teaching the course, the instructors attempt to provide:

- Knowledge of the educational and sociological setting of counseling.
- Experience with occupational information materials.
- Observation of counseling done by experienced staff members.
- Critical analysis of observed counseling interviews.
- Supervised practice in counseling.
- Group and individual discussions of practice work.
- Discussions of case histories illustrating the dynamics of behavior.
- Clarification of the philosophy of counseling.

Students are admitted to the practice course on consent of the instructors, and only those with advanced training in psychology, educational psychology, and related areas are accepted. Most of the students are in the second or third year of the doctoral program, and their previous course work usually includes two or three quarter sequences in abnormal psychology and/or clinical psychology, advanced statistics, group and individual testing, principles of counseling (including diagnosis and therapy), and occupational and vocational psychology. The students have had varied additional training and experience, of course, in addition to this general "core" of background courses. The practice course extends through three quarters and carries a total of nine quarter credits. It requires attendance at one weekly two-hour seminar plus a minimum of four hours of laboratory work for each student.

In order to emphasize how counseling occurs in a social and educational setting, during the first few sessions of the seminar, the instructors present information about the University of Minnesota and its various divisions. Although a graduate student may have been in residence for some time, he is likely to be uninformed about many of the university resources which he can utilize as he counsels students. Neither is he acquainted, ordinarily, with the structure, organization, and regulations of the University and how they affect student life. In order to impress the graduate students with the necessity for understanding the University as one basis for effective counseling in this setting, the class is given an informal, short-

answer achievement test based on questions which frequently arise in a typical day for any of our counselors. The class is motivated as soon as its members realize from this short test that in estimating a student's probable expenses for three quarters in school, their estimates vary from \$300 \$2,400, that most of them do not know entrance requirements for the various colleges, and they do not know where to look for information about specific kinds of training in which students are interested.

This informational section of the course begins with a discussion of the general organization of the institution, its relationship to the state and the community and the roles of the various colleges. Then follow rather detailed descriptions of the Student Activities Bureau, the Office of the Adviser for Foreign Students, the Office of Loans and Scholarships, the Discipline Counselor's Office, the Veterans' Counseling Center, the Student Union, the dormitories, and the counseling offices in the separate colleges. Procedures of referral and consultation with the personnel of these divisions are emphasized. Finally, the Student Counseling Bureau itself is carefully described, including its history, functions, organization, and procedures. The graduate students must know thoroughly the departments, resources, personnel, forms, and activities of the Student Counseling Bureau before they start their practice work.

During the first month of the course, the students devote one-half of their laboratory time to working in the Occupational Information Library of the Bureau. They go through the various folders, become familiar with the materials available, cross-index them and identify and remove out-of-date materials. They also work with University students who come to the Occupational Information Library for information.

They devote the other half of the laboratory time early in the course to observation of and discussion with the more experienced members of the Student Counseling Bureau staff. They must observe a minimum of two interviews a week. The graduate student sits as unostentatiously as possible in the interviewing room or listens to the interview over an inter-office communication system attached to a microphone in the interviewing room. After each interview, the counselor who conducted the interview discusses with the graduate student the processes and techniques used, attempting to

explain why various procedures were used or omitted.

These individual observations and discussions continue during the second month of the fall quarter, with supplementary group observations and discussions substituted for the Occupational Library assignment. For the group observations, the entire class listens to selected counseling interviews over the public address system, with both instructors present. Following the interviews, the counselor joins the students and instructors for a discussion of the interviews.

After the graduate students have had several weeks' experience in observing interviews, they are expected to begin interviewing students. Each graduate student is assigned to a counselor of the staff of the Bureau for a period of about two or three months. At the end of this time he then begins to work with another supervisor. The supervising counselor is responsible for discussing with the graduate student before the interview all available information, for observing the interview either by sitting directly in the room or by listening over the inter-office communication system, and for discussing the interview with the student at its completion. Each graduate student must have a minimum of two such supervised interviews each week and has a total of from 50 to 70 supervised interviews before the course is completed. No counselor acts as supervisor for more than two graduate students.

Returning to the weekly two-hour seminar sessions, after the discussions of the University organization are completed, a few hours are devoted to discussions of the tests and prediction batteries which are used in the University. Students are asked to report on tests available in specific areas, such as engineering, medicine or the College of Science, Literature and the Arts. They discuss further questions concerning the use of these tests and batteries.

A method of role-playing is then utilized in the class sessions. Each student participates in at least one role-playing situation. One student of a pair is asked to play the role of a counselor, while the other student plays the role of a counselee with whom he has worked. This role-playing interview, conducted before the class, is followed by comments, suggestions, and criticisms from instructors and students in the class.

After the role-playing has been completed, the



members of the Student Counseling Bureau staff present cases illustrating the comprehensive, longitudinal counseling approach used in the Bureau. They attempt to demonstrate the use of follow-up methods, the technique of consultations and referrals and the developments that take place in a counseling process extending over a period of months or even of years.

After the staff counselors complete these case presentations, the graduate students are asked to present their own cases, as by this time they have carried a number of cases through a series of interviews.

At this point, the graduate students conduct interviews which are observed by others in the class, and the criticisms and comments made by their own peers are perhaps even more helpful than are the suggestions from instructors and supervisors. Periodically, recordings and typescripts of the students' interviews are made. Careful analyses of these typescripts become an important part of the student's discussion with instructors, supervisors and fellow class members.

Graduate students themselves have a variety of problems. Many students in the practice class previously have been counselees in the Student Counseling Bureau. For those who have not been counseled, the instructors suggest early in the course that each of them make an appointment as

a counselee with one of the staff members of the Bureau to discuss any personal adjustment problems with which he may be concerned or of which he may be unaware.

In order to systematize the evaluation of a student's progress, supervisors turn in rating sheets after each practice interview. The supervisors summarize these rating sheets for each student at the end of each quarter and discuss these summaries with the instructors. In many cases, the progress of the student also is reviewed with his major advisor. Throughout the instruction, practice, and evaluation, an attempt is made to emphasize the prospective counselor's growth in appreciation and understanding of student needs and problems, with clarification of his points of view and philosophy of counseling.

Most of the students who have completed the course are now engaged as counselors in colleges and universities, and many of them are now themselves engaged in the training of counselors. A large proportion also have assumed administrative responsibilities in counseling programs. Suggestions received from these graduates now in the field have helped in revising the training program and their reports have indicated that they find the practice course useful.

*Received May 13, 1949*



# THE PROGRAM FOR TRAINING SPECIALISTS IN PSYCHOLOGICAL MEASUREMENT AT TEACHERS COLLEGE, COLUMBIA UNIVERSITY<sup>1</sup>

IRVING LORGE, ROBERT L. THORNDIKE, AND HELEN M. WALKER

*Teachers College, Columbia University*

PSYCHOLOGY includes at the present time a certain group whose concern is with measurement itself, with the development of measurement instruments, the examination of measurement theory, the application of measurement procedures on a large scale. They are the teachers of measurement, the makers of tests, the directors of school research bureaus, the administrators and technicians in a variety of governmental civil service and personnel agencies, the measurement specialists in industrial organizations, and the like. It is with training recruits for this general group that the present article is concerned.<sup>2</sup>

The program of the measurement specialist is organized at Teachers College as a specialization within the general field of Psychological Foundations of Education. The student is supervised by that department, and if he matriculates for the doctorate, he matriculates in Psychological Foundations of Education. This means that he is expected to exhibit a certain general competence

<sup>1</sup> The *American Psychologist* has from time to time published articles describing the training of various species of the genus *Homo psychologensis*. One species which has certain identifiable distinguishing characteristics, though it merges into a number of related types, is that of *Psychometricus measurementis*, commonly known as the multiple-correlated test constructor. We have been invited by the editors to describe the care and intellectual feeding of this particular species, as it is currently carried out at Teachers College, Columbia University.

<sup>2</sup> Although this article deals primarily with measurement specialists, we also have other students who are preparing to give tests in connection with clinical work, students who wish to use group tests and interpret test profiles in connection with educational or vocational counseling, students who will be in charge of programs of diagnostic testing and remedial instruction in a school system, and other similar groups. Courses for the measurement specialist serve the needs of many other specialties with overlapping interests, and, in turn, much of the program for the measurement specialist is provided by courses primarily designed for workers in related specialties.

in the broad field of educational psychology in addition to special skills in measurement. Some part of his program would normally be expected to consist of courses in child development, the psychology of learning, the psychology of adjustment, social psychology, and the like. The amount and exact nature of this more general program varies widely from student to student, depending upon the amount and nature of previous preparation. The diversity of backgrounds of students coming into the field of measurement is, of course, very great.

In addition to the more general courses, there are those focussed more specifically on the measurement area. These may conveniently be discussed in three groups: (1) courses in statistics, (2) courses in measurement, and (3) courses in research method. Each of these will be treated in turn.

## THE ACADEMIC PROGRAM

*Courses in statistics.* The basic sequence of course work in statistics at Teachers College is made up of three one-semester courses, each a standard three-point course. The first semester is limited to descriptive statistics; the second semester deals with statistical inference with a strong emphasis on the logic of induction, on underlying assumptions, on valid interpretation; and the third semester continues the study of inference in more complex situations.

The most distinctive feature about these statistics courses is probably their emphasis upon meanings and the underlying logic of the statistical operations. The courses move somewhat more slowly than many courses in statistics. This is due chiefly to the conviction that instruction in statistics cannot rest content, even at the earliest levels, with teaching students *how* to compute the various statistics, but that it must also concern it-

self with developing understanding of *what* it is appropriate to compute and under what conditions.

A course is offered dealing with computations from mass data by the IBM machines. Here the student learns how to wire the machines for various operations as well as how to plan and execute large scale studies. A well equipped and supervised statistical laboratory is provided in which students may learn the standard methods of computation on the Friden, Monroe or Marchant machines. The student may use these machines when making computations for his own research projects.

A practicum in the teaching of statistics is offered for students expecting to become college teachers of statistics or of the statistical aspects of measurement.

With few exceptions, the students who will specialize in measurement complete the basic three-semester statistics sequence. For those whose interests and mathematical backgrounds permit, the University offers a variety of more advanced courses in statistics. A course in factor analysis is taken by many students. The Department of Mathematical Statistics in Columbia University will, beginning in the fall term of 1950, offer a year's course in mathematical statistics designed especially for students from education, psychology, sociology, economics and the natural sciences, provided they have had at least a year's study of statistics in their own department and have had a course in calculus. In addition, the Department of Mathematical Statistics offers a variety of more specialized courses for persons with sufficient mathematical training.

*Courses in measurement.* Basic to other courses in measurement is a general "Introduction to Measurement." This course is designed primarily as a service course for the many groups in psychology and education who will be users of measurement procedures and consumers of the results of tests and testing. It does not try to deal with particular tests in particular areas, but focuses rather upon the common problems of measurement wherever they are encountered. Many of the students with special interest in measurement have already had work equivalent to this course before coming to Teachers College and do not take it here. For others, however, it serves to organize and crystallize their thinking and interest in the field, and appears to be a valuable review and introduction.

At the level beyond the introductory course are a number of semester courses dealing with practical and/or specialized testing problems. Some of these are given directly under the aegis of Measurement, but others are given in the Department of Guidance as part of the program for training clinical psychologists or vocational counselors. In the former group are a course in educational evaluation, a course on group testing in the elementary and secondary school, a course on character and personality tests, and a course on projective tests. In the latter group are introductory and advanced courses in individual mental testing, courses in vocational tests, and specialized courses in the administration of the Rorschach test. The measurement-specialist-in-training takes a number of these courses, the particular ones depending upon individual background and interest. Most of the group take at least one course in individual psychological testing and one course dealing with projective techniques. Smaller numbers take other ones of the courses in this group.

At the third level is offered a year's course in measurement theory and test construction. This course undertakes to present a consideration of measurement problems on an advanced and critical level. It examines the basic logical assumptions of psychological measurement, considers problems of units and scales, scrutinizes the logic of reliability and validity, reviews procedures for item analysis and item selection, looks at procedures for selecting tests for and combining them into a battery, and explores the problem of differential prediction and assignment. At the same time, the course provides instruction and practice in the skills of test construction. In the past the theory and practice have been given in different semesters, but in the future it is proposed to carry the two aspects of the course along together. This course usually represents a focal point in the program of the measurement specialist.

*Course in research method.* At Teachers College a two-semester course is offered in methods of research. The course is designed to serve the needs of doctoral candidates in all fields, and is the proving ground in which many of them test and clarify their nebulous plans for PhD thesis or EdD project. Since a measurement specialist is typically concerned with problems of research design and methodology, however, this course becomes quite central to his program of training.

Students are responsible for a number of projects during the first semester, designed to contribute to the clarification of each student's problem or problem area. The first assignment requires the development of a working bibliography requiring the utilization of all bibliographical resources. After this has been completed, the student prepares a digest (very much like those appearing in the *Psychological Bulletin*) of literature relevant to his problem or a significant aspect of it. Meanwhile, the student formulates several research problems. These problems are discussed individually with the teaching assistant. After the problems have been clarified the instructors hold individual conferences with the student in order to arrive at the selection and formulation of the doctorate research problem. The last assignment requires the presentation of a rationale for the problem and a formal outline.

The second semester deals more with the minutiae of research. The focus, in the early lectures, is on the descriptive methods: direct and indirect observation, the questionnaire and the interview, and the survey. This is then followed by the techniques: content analysis, rating methods, criterion development, and coding as related to mass tabulation procedures. The second half of this semester considers experimental methods and experimental design. In addition much attention is given to the statistical operations of governmental and quasi-governmental agencies. The course attempts a fairly thorough survey of governmental sources of data, federal, state and smaller governmental units. The second semester ends with lectures on the drafting of statistical

tables and the preparation of the research publication.

In the second semester, the primary objective of student projects is to give the students practical experience in descriptive methods. Some topic is selected to give students, working in teams, experience in interview, questionnaire, rating methods, content analysis and coding. One semester, for instance, the students were required to obtain information about the adequacy of the guidance and research resources for doctoral candidates. This involved depth interviews of a sample to formulate questions, the development of the questionnaire (which included open-ended questions), development of content categories, rating methods, etc. The data were then collected leading to the formulation of a final report.

#### PRACTICAL EXPERIENCE

There are many agencies in and around New York engaged in the construction and use of tests, for example, the World Book Company, the Psychological Corporation, and the National League of Nursing Education. Some students who have carried on graduate work in measurement have worked either full or part time for these organizations. In addition, the Institute of Educational Research has frequently had testing or test construction projects under way in which advanced students have received practical experience. It is hoped that these opportunities can be increased in the future.

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# GRADUATE TRAINING IN INDUSTRIAL PSYCHOLOGY AT PURDUE UNIVERSITY

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GRADUATE training in industrial psychology at Purdue University<sup>1</sup> has been evolving over the past dozen years. Approximately fifty graduate students are now majoring in the field. Research and instructional activities are concentrated in the Occupational Research Center which is an informal unit within the Division of Education and Applied Psychology. B. L. Dodds is director of the Division and reports to the president of the University. Staff members of the Center are members of the faculty of the Division of Education and Applied Psychology as are other staff members whose instructional activities fall in the field of psychology.

While Purdue University does not have a specifically designated graduate faculty, all staff members of the Occupational Research Center teach graduate courses, serve on graduate examining committees, and direct thesis research. One member of the Occupational Research Center staff serves on the Graduate Council, the policy body for the Graduate School.

## COURSE OFFERINGS

Activities in the Occupational Research Center are distributed between two areas:

(1) The *industrial relations area* in which the emphasis falls upon the adjustment of the individual to his work environment and upon interpersonal relationships. This area involves a consideration of testing and placement, employee and management training, job and personnel evaluation procedures, and personnel methods in general.

(2) The *area of human factors in engineering design* in which the emphasis falls upon the adaptation of industrial equipment and work methods

to human limitations. This area involves a consideration of such specific problems as appearance inspection, the use of inspection equipment, optimum methods of work, the appraisal of production procedures, and the design of instruments.

*Courses.* Course offerings generally follow the pattern of these two areas with the exception of beginning courses in which no attempt at segregation is made. The following courses are taught by staff members of the Occupational Research Center:

- Psy. 173 *Personnel Psychology*
- Psy. 175 *Psychology of Industrial Training*
- Psy. 184 *Psychology of Industrial Vision*
- Psy. 185 *Psychology of Work Efficiency*
- Psy. 197 *Psychological Approaches to Job Analysis*
- Psy. 241 *Analysis of Published Research in Industrial Psychology*
- Psy. 279 *Applied Experimental Psychology*
- Psy. 280 *Industrial Personnel Testing Techniques*
- Psy. 281 *Seminar in Industrial Psychology*
- Psy. 282 *Field Problems in Industrial Psychology*
- Psy. 284 *Experimental Psychology of Vision*
- Psy. 296 *Psychology of Incentives in Industry*
- Psy. 297 *Research Problems in Job Analysis*

Other course listings in psychology include those in the clinical, experimental, and educational fields, and specific courses in public opinion measurement, social psychology, market research, and attitude measurement.

Statistical competence is regarded as an essential adjunct of competence in industrial psychology. A sequence of three courses in psychological statistics is offered in the Division. In addition, the Statistical Laboratory of the University, located in the same building, provides instructional and consultation facilities. Coordination is achieved through two members of the Occupational Research Center staff who also serve on the staff of the Statistical Laboratory as research associates; one member is presently teaching the machine-methods course.

Considerable emphasis is placed on broadening the graduate trainee beyond the field of psychology

<sup>1</sup>Purdue University is located at Lafayette, Indiana. One of Indiana's two state universities, it is a land grant college and consequently is dedicated to scientific, technological, and agricultural pursuits. More engineers graduate from Purdue each year than from any other institution, a fact which has aided materially in the building of a sound relationship between industry and the institution.



as it is sometimes conceived. Excellent instruction in labor relations is provided through the Department of History, Economics and Government. Similarly effective working relationships with the Department of General Engineering make available courses in management and industrial engineering. For example, nearly all candidates take a course in motion and time study.

#### DEGREE CURRICULA

Every enrollee follows a program of studies tailor-made to his own needs. This end is accomplished through the operation of a major professor and a functioning advisory committee system. Both the Master of Science in Psychology and the Doctor of Philosophy degrees are conferred. Information on details not presented here may be obtained from the Graduate School Bulletin.<sup>2</sup>

**Master's Degree.** Training at the master's level is designed to be foundational to the doctoral degree. However, every effort is made to make the Master's degree recipient employable and about half of the students terminate at this point. A student pursuing the Master's degree must present a minimum of 15 semester hours of credit in the major, 6 hours in each of two minors, and an acceptable thesis. There are no language requirements.

**Doctor's Degree.** Students seeking the doctor's degree must present a minimum of 24 hours in the major, 12 hours in each of two minors, and an acceptable thesis. A minimum of six terms of residence is required (residence credit is awarded for work done elsewhere). The Graduate School accepts the presentation of course work in advanced statistics in lieu of one language; in addition, a reading knowledge of French or German is required. A comprehensive written and oral examination, known as the preliminary examination, is administered before the student is admitted to candidacy.

**Minor Areas.** For both the Master's and Doctor's degree, considerable latitude rests with the student's advisory committee in selecting minor areas. Students in the past have presented minors in labor economics, management, industrial engineering, physics, and mathematical statistics, as well as in general and specialized fields of psychol-

ogy. One of the minors may be in the same field as the major and split minors can be arranged.

#### FACILITIES AND OPERATIONS

**Staff.** The staff of the Occupational Research Center presently consists of Joseph Tiffin, professor of industrial psychology; C. H. Lawshe, professor of psychology; N. C. Kephart, associate professor of industrial psychology; and E. J. McCormick, assistant professor of psychology. Other faculty members sometimes direct the research of students majoring in this field. For example, H. H. Remmers, professor of education and psychology and director of the Division of Educational Reference, directs several students, particularly those with interests in the measurement of attitude and morale.

**Facilities.** Physical facilities include a complete International Business Machines card-punching, sorting, and tabulating unit operated by the Center. Machine time on similar units is also available to graduate students in the Statistical Laboratory and in a central tabulating division. In addition, a Remington-Rand punch-card tabulating unit is presently being set up.

A shop for both machine and wood work is maintained as a part of the general psychological laboratory. An instrument technician is employed to aid in the design and construction of laboratory apparatus. The emphasis on research in industrial vision that has developed during several years of collaboration with the Bausch and Lomb Optical Company has resulted in the establishment of a vision laboratory.

**Research Activities.** Numerous graduate research projects have been based on active collaboration with industrial organizations. Several hundred industrial personnel people have attended the Center's short courses which deal with the installation and operation of an industrial vision or a personnel testing program. Associations with these industrial people have often resulted in later collaboration on research of mutual interest. This collaboration has at times resulted in industrial subsidization and/or in graduate fellowship grants. The Purdue Research Foundation was organized specifically to work with industries that are interested in collaborative research in all scientific areas. G. Stanley Meikle, director of Research Relations with Industry, has done much to make the Foundation an effective

<sup>2</sup> Address Dr. E. C. Young, Dean, The Graduate School, Purdue University, Lafayette, Indiana.

vehicle for working out cooperative arrangements with industry. Occupational Research Center staff members are permitted to engage in reasonable amounts of private consulting with industry, which activity often results in research which is ideal for graduate student theses.

Research in progress at the present time is in the fields of communication between management, supervision, and employees; factors underlying employee morale; job evaluation; personnel test development and other selection techniques; methodological studies; employee evaluation; factors affecting work efficiency; employee training; and industrial vision.

*Job Opportunities.* While the growing emphasis on industrial psychology at other institutions has markedly increased the demand for faculty personnel, placements are still averaging about three in industry to every one in academic institutions. Among the companies that have employed students with Master's or Doctor's degrees from Purdue are: A. C. Spark Plug Division of General Motors; Bridgeport Brass; Caterpillar Tractor; C & O Railroad; Creole Petroleum Company; DuPont; H. P. Smith Paper Company; Indiana Associated Telephone Company; Kaiser-Frazer Company; Kraft Foods; M & M Limited; Prudential Life Insurance Company; Radio Corporation of America; Republic Aviation Corporation; Sinclair Oil Company; Stanolind Oil Company; Stewart-Warner Company; Todd Company; Tokheim Pump Company; and U. S. Rubber Company.

Jobs that have been filled in these and other companies have included most areas in the industrial relations field. The levels of responsibility assigned to the recent graduates have varied from that of personnel assistant to director of industrial relations. Most of the initial positions have involved such areas as research in test development and validation, interviewing and employment, wage and salary administration, and supervisory and/or employee training. Some students have gone into responsible research positions with departments of the National Military Establishment and other governmental agencies.

#### APPOINTMENTS AND ADMISSIONS

*Assistantships and Fellowships.* Approximately one out of every four graduate students majoring

in industrial psychology receives an appointment as a teaching assistant in the Division of Education and Applied Psychology. Regular appointments of this character are currently paid at the rate of one hundred dollars per month for half time and fifty dollars per month for quarter time. The number of fellowships is variable from year to year. Recent and current fellowships include: Purdue Research Foundation Fellowships (there are presently three of these held by industrial psychology students); Timken Roller Bearing Research Fellowship; Gulf Oil Company Fellowship in Industrial Psychology and Employee Relations; and a Job Evaluation Fellowship, Office of Naval Research.

A number of students majoring in industrial psychology obtain University appointments outside the Division. Some positions presently held by students are:

Assistant, Engineering Placement Office  
Assistant, Office of the Associate Dean of Engineering  
Assistant, Placement Officer, Student Aid Bureau  
Instructor in Motion and Time Study, General Engineering Department  
Counselor, Men's Residence Halls

*Admissions.* Admission to the Graduate School to major in industrial psychology is based upon an evaluation of (a) the undergraduate record, (b) performance on a test battery, (c) work experience or military experience, if any, and (d) the student's interests as reflected in a statement of his purposes. In some instances recommendations are solicited. Evaluations are made independently by members of the Occupational Research Center staff, with other faculty members participating where indicated. These independent judgments are later reviewed in staff meetings and group recommendations are made to the Dean of the Graduate School through the director of the Division of Education and Applied Psychology.

Admission application blanks and appointment application blanks may be obtained by addressing Dr. C. H. Lawshe, Chairman of the Committee on Graduate Admissions and Appointments in Psychology, Occupational Research Center, Purdue University, Lafayette, Indiana.

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# A STUDENT EVALUATION OF A CASE METHOD COURSE

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**A**MONG the innovations in teaching elementary psychology are the courses in Human Relations now being taught in a variety of places by the case method. Experience with this type of course is too limited at the moment to expect a definitive evaluation. However, at Colgate the course has been taught 10 semesters to a total of 36 sections, each with an enrollment of 25 to 30 students. As a consequence of this background some notions have evolved concerning the current limitations and educational difficulties as well as the benefits entailed in a course of this kind. It is the purpose of this paper to discuss in some detail one area of difficulty that has recurred in almost every section of the course, namely, a dip in morale occurring, usually, early in the second half of the term.

The course has been described elsewhere (1, 2). Students are presented with factual accounts of situations in which there is some disturbance in the relationships either between individuals or between groups. These cases are "normal" situations rather than those involving psychotics or "abnormally" distorted relationships. Students are expected to diagnose the nature of the difficulties and develop some understanding of the motives, feelings, and attitudes of the chief participants in the situations. In the latter part of the course emphasis is placed on the development of constructive ways of dealing with these problems.

Those who have taught the course have frequently observed in either fall or spring semester classes that some time after mid-term a slump in class morale occurs. Prior to this point discussion is animated, the cases appear interesting to the class, and there is a high degree of motivation. When the slump was reached in the fall semester of 1948, one of the writers offered the suggestion that the condition could be more effectively clarified if presented to the class as another human relations problem using the same analytical methodology as had been used with other cases. The

objective was to permit the students to gain some insight into the variety of influences operating on the structure of a group, i.e., their own.

The class involved was composed of 26 students. Nine cases had been discussed and three weeks of the semester remained. At the beginning of the class the instructor mentioned that he had a feeling that the value of class discussion was on a "down hill trend." There was no attempt to influence the students' interpretations.

This introduction led to a discussion that required two one-hour class periods. The first period was recorded on a disc recorder and transcribed. The instructor took notes during the second class period.

During the first class period there were 118 student responses and 81 instructor's comments. Of the 118, 23 were directed toward content alone, three toward method alone, and 31 toward student relationships within the class. Forty-six of the students' statements were concerned either directly or indirectly with objectives of the course combined with criticism of content, method, or group dynamics. Including those combined with objectives, 48 responses of the 118 were related to content, 17 to method, and 41 to group dynamics.

Since it is not feasible to reproduce the entire discussion the total text of which was the source of the subsequent comments and interpretations, only the conclusions and recommendations achieved through critical analysis of the transcript and paraphrased summary will be presented. Following are generalizations which were drawn from those remarks pertaining to content.

1. Having accepted the premise that class morale was suffering, there was more disagreement than agreement that any specific adjustment of content would eliminate the problem. (Those adjustments which were suggested by each student were in turn rejected by others.)

2. There was, however, a general preference for material which would enable the students to

discuss their own problems; hence, students placed great value on immediate personal problems such as marriage, vocational adjustment, sex, divorce, and campus affairs. Further theoretical values involved in the course were considered superfluous.

3. The students explored some of their personal difficulties in adjusting to the case method of instruction. These difficulties revealed an inability to transfer ideas and concepts used in analyzing the cases to problems in their own lives.

4. As the first period of discussion proceeded there was an increasing awareness that their own contributions constituted the true content of the course.

5. The students, as a group, felt a general sense of insecurity in the use of the case method. These insecurities were due to lack of traditional authority in which the discussion, goals, minimum requirements, and objectives are very largely determined by the instructor's wishes. Lack of conclusive answers to case problems, increasing awareness of the complexity and intangibility of human relations problems, personal fear of inadequacy in expression or experience, and fear of offending friends or being offended are more characteristic of this course than traditional classes. The student is thrown into a new relationship with other students which may be cooperative or competitive and he is unsure of his role whereas in the traditional class the relationship is fundamentally a teacher-student one.

The major portion of the total discussion was devoted to the nature of the interrelationships existing within the group. In the first class session 31 responses dealt directly with group dynamics, 10 responses combined objectives of the course with group relationships. Practically all of the second class period was concerned with the nature of the relationships existing between class members during case analyses. The following generalizations describe the varied observations which were made by the students.

1. Prejudice, "close-mindedness," among class members blocks effective group intercommunication.

2. Differences in religious background, training and experience within the class operated to discourage spontaneous expression at times and at other times they tended to aid and enrich the discussion.

3. Groups formed within the class during each

discussion of a case. The groupings were fluid, often dependent upon the nature of the case and followed no rigid pattern. Groups were formed and dissolved as the course progressed.

4. While the course is aimed at developing skill in the analysis of human relations problems, comments in class are not always directed purely at the problem but are made with an eye to their influence on other members of the class.

5. Some individuals adopted such "fixed" modes of response and roles that their behavior was predictable within that group.

6. The students considered a class composed of 25 members a trifle too large for satisfactory intercommunications. Too large a class prevented students from becoming intimately acquainted with each other and fostered sub-groups which inhibited individuals from expressing themselves as individuals. In addition many students found that lack of opportunity to express themselves when so motivated was particularly frustrating and conducive to withdrawal from participation.

Comments concerning the objectives of the course never constituted a separate phase of the discussion although they infused other statements that were primarily focused on content, method, or group dynamics. The class in one way and another expressed uncertainty, uneasiness, and confusion with respect to the objectives of the course. They did not understand the criteria of grading or achievement. They had no feeling of accomplishment when they did a satisfactory job of analysis but came to believe that grades were largely a matter of luck.

The confusion expressed by the students is directly traceable to the vagueness of objectives held by the staff. Courses taught by the case method are often characterized by fuzzy, generalized, non-specific objectives, and this is particularly true of the new courses in human relations. The belief has been generated that because the case method unquestionably stimulates discussion and the exchange of interpretations, it will inevitably lead to intellectual growth. There is some justification for the notion that under these circumstances we ought to "let nature take its course" rather than stunt that growth by efforts to achieve specific, particular objectives established in advance.

On the other hand, the evidence from this study indicates that in the absence of objectives that are

clear to the student, little or no growth takes place. Participation may drop, interest in the course may decrease, and the difficulties may be projected to a variety of factors.

Moreover, in the absence of clearly defined achievement targets it is virtually impossible to evaluate the course, grade the students, or discover those aspects of the course which need strengthening, or modifications for improvement.

By way of explanation it should be pointed out that the students are required to write several short papers during the term which are their interpretations of specific segments of behavior revealed in the cases. These assignments grow out of the class discussion and are graded on the factual support marshalled behind their interpretations and the internal consistency of their reasoning. Instructors usually write marginal criticisms on each student's paper and conclude with a constructive summarized evaluation at the end of the paper. Examinations consist of written analyses of cases read in advance but not discussed in class. The grades obtained from the papers together with those from two examinations constitute the general basis for grading on a five point scale.

A number of objectives that need clarification have already been suggested in the student statements above. Perhaps the most important are the long-run objectives such as growth in ability to communicate one's own ideas and understand the attitudes and feelings of others. Stated in that way the objective is not easily measured, nor is growth of this kind ordinarily recognized by the individual.

The matter of transfer needs further clarification. Students appear at times to feel that "... there's approximately the same reasoning behind (the cases). . . ." On the other hand, another student asked, "Are we supposed to get something different, some different applied reasoning, out of each of these cases or aren't they all the same thing?" Unless transfer of course skills to everyday life is made a clear objective and measures are specifically developed to meet that objective, it is doubtful if the objectives will be achieved. The past studies of transfer from Latin or mathematics stand as a warning on that score.

There is little question that the case method is highly interesting, but the fact that the interrelationships within a group can retard the progress of the group, and finally produce boredom,

again points to the need for an objective to cover this point and a means of measurement to determine its presence. There is evidence that students could profit from orientation so that a number of insecurities associated with transferring from a traditional type of teaching could be reduced or possibly eliminated.

Since the case method, as used in colleges, is a relatively new development in the field of teaching of psychology or human relations, there is a need for examining some of its desirable and undesirable features. Lest the wrong impression be gathered, the writers are impressed with the unique value of case method instruction. Certain social and psychological material can be approached in only this way perhaps.

In turning the class toward analysis of the classroom as a human relations situation, the case method has shown its merits in revealing many of these problems which required crystallization in order to improve and properly use it. It is hoped that this critique will stimulate an exchange of information on case-method teaching.

The list which follows is a summary of the class criticism as related to its own morale and the problems which class comments have raised.

1. There was recognition among the students that a problem of class morale existed.
2. It was suggested almost without dissent that cases should deal with problems more closely related to the immediate adjustments of the students.
3. The discussion of content brought to light the potential value of clear objectives on transfer and the long-run objectives of the entire approach.
4. The criticisms of the discussion method revealed some obstacles in students who have adjusted themselves to traditional types of instruction. These insecurities of students centered around lack of authoritative goals, lack of definitiveness of criticism, grading, self-evaluation of progress, and personal maladjustment to the method.

#### REFERENCES

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2. DONHAM, W. B. An experimental course in human relations. *J. General Education*, II, 1, Oct. 1947, Pp. 8-16.

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# THE CASE FOR THE EXPERIMENTAL PROJECT METHOD OF LABORATORY TRAINING

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THE desirability of developing in students an adequate appreciation of scientific inquiry requires no defense. According to Anastasi (1), all of the 47 outstanding American psychologists whom she polled "agreed that some training in experimental method is essential for all types of students concentrating in psychology." Lip service to this objective is easy to find. There are many indications, however, that in general the present formal methods of teaching the undergraduate experimental courses seriously fail to achieve such an objective. Representative critical opinion with some factual evidence may be found in papers by Ojemann (4), Rogers (5) and Seashore (6).

Obviously, laboratory courses in scientific fields may have distinctly different purposes. One of these is the teaching of specific techniques, as represented by dissection exercises in biology, analytic procedures in chemistry, and test administration practice in psychology. These are recognized to have their place. However, it is my contention that such training in *specific techniques* is essentially what the typical experimental laboratory course in psychology actually does achieve, at best, and that we ought frankly to recognize this as a fact and cease deluding ourselves in thinking that we are training in *scientific method*. It is the major thesis of this paper that adoption of some form of the experimental project method offers the only realistic means of improving the situation.

## CATALOGUE SURVEY

Some objective indication of the relative frequency of these two types of experimental laboratory courses has been obtained from an analysis of the catalogues of the seventy-five<sup>1</sup> representative colleges whose curricula were earlier examined by Anastasi (1).

<sup>1</sup> The number of colleges in the survey was reduced to sixty-seven mainly because of inadequate descriptive information on courses in certain of the catalogues.

The major results of the survey are summarized in Table 1. The orthodox laboratory method of teaching experimental psychology is in Table 1 called the *formal exercise* method. This refers to any system whereby the student spends small amounts of time, usually single periods of from two to three hours, on a set of separate exercises, the form and direction of which have been predetermined by the instructor. The *experimental project* method, on the other hand, refers to any system in which the student is required to work on a single specific experimental problem, from early formulation to report. A further distinction is made between the full semester course on one

TABLE 1  
*Experimental psychology laboratory courses offered by  
sixty-seven representative colleges*

Type of Course	Number	Per Cent
Full semester experimental project . . . .	13	7.1
Part semester experimental project . . . .	7	3.8
Special problems . . . . .	29	15.8
Formal exercises . . . . .	107	58.5
Doubtful . . . . .	27	14.8
Total . . . . .	183	100.0

project and that in which only part of the time is devoted to a separate project. A "special problems" course, as listed at various universities, was included when it appeared to be definitely oriented on an experimental laboratory basis. Those courses which were simply listed as experimental laboratory courses or whose descriptions were ambiguous were placed in the doubtful classification.

It is clear from Table 1 that the experimental project type of course is distinctly uncommon, constituting little more than one-tenth of the total number of experimental laboratory courses. Formal exercise courses constitute 58.5 per cent of the total. The influence of the special problems type of course, whose general plan would seem to be



somewhat similar to that of the experimental project, is relatively limited. This is a result of its restriction to individual students, typically of a select character, and its practical inactivation in many departments, especially those with staff limitations.

More important, perhaps, than the number of experimental project courses is their distribution. In other words, how many departments offer students *at least one* such course? The results of the survey on this point were equally discouraging. Of the sixty-seven departments whose catalogues contain adequate course information, only eleven, or 16.4 per cent, were found to offer any experimental project type of course. An additional twenty departments offer the special problems course, the practical limitations of which have already been mentioned. This leaves fully thirty of the departments, or 44.8 per cent, with *exclusive* offerings in the experimental laboratory field of formal exercise type courses. The remaining six departments could not be classified because of doubtful courses.

#### COMPARISON OF TWO METHODS

A differential analysis of the formal exercise and the experimental project methods, with reference to their relative involvement in the various basic steps of the *entire* process of experimental inquiry, is shown in Table 2. This analysis reveals the complete inadequacy of the formal exercise method so far as the first four steps in experi-

mental inquiry are concerned. The experimental project method, on the other hand, provides the student with an active role in recognizing the problem area, reviewing at least part of the literature, formulating specific testable hypotheses, and designing a specific experimental attack. Naturally, the extent to which each student will be able to contribute to each of the functions will depend upon his own abilities, training, and motivation.

It is in regard to steps 5 and 6, involving manipulation of apparatus and collection of data, that the formal exercise seems to be most effective. Even here, however, certain advantages may be seen in the experimental project. In the first place, it requires a more thorough familiarity with any apparatus used, and it thus provides a more intensive type of training. Secondly, the opportunity may often be available for the student actively to contribute to the design of his own apparatus, or to his own particular problem of data collection.

Probably the major argument in favor of the formal exercise method is that it does provide the student with an opportunity to become familiar with a variety of types of apparatus and means of collecting data. Certainly this familiarity is important. If familiarity with apparatus is an objective, however, the judicious use of time-saving demonstrational methods as a supplement to the experimental project may serve somewhat the same purpose. The supplementary use of simple demonstrations may also be of value in pointing up lecture material correlated with the laboratory, and there is good reason to believe that this is often as effective a pedagogical technique as the more elaborate and time-consuming formal exercise (*cf.* 6).

I have placed a question mark under formal exercise for the last three steps because it is doubtful whether more than a small fraction of such exercises make it necessary for the student to do very much of his own thinking and planning with respect to statistical analysis of the data, interpretation, or report. As a general rule, the form for these steps is more or less explicitly stated, and passive following of the suggested procedures is commonly observed. (The frequency with which reports from previous classes are utilized for help, partial or complete, in this part of the laboratory exercise I will leave to the reader's own estimation; my experience has been depressing in this respect, even if only detected cases are counted.)

TABLE 2

*Involvement of the two types of laboratory training in the basic steps of experimental inquiry*

Basic Steps	Training Method	
	Formal Exercise	Experimental Project
1. Recognition of problem.....		x
2. Review of literature.....		x
3. Statement of specific testable hypothesis.....		x
4. Method—experimental design...		x
5. Method—apparatus.....	x	x
6. Collection of data.....	x	x
7. Statistical analysis of data.....	x ?	x
8. Interpretation of results.....	x ?	x
9. Report.....	x ?	x

The student who is performing his own experiment must at the very least be responsible for selecting and applying the statistical analysis, no matter how simple, for interpreting his results, and for preparing his report. Of course, the extent to which he will require direct assistance in each of these steps will vary with the student—but the main point is that he is on his own and has at least a more adequate opportunity to utilize his past training and develop his own ideas.

#### SPECIAL VALUES OF THE EXPERIMENTAL PROJECT

It is probable that no mere change in instructing technique will radically improve a certain number of students, and that on the other hand none is needed with a smaller number of strongly motivated and exceptionally able students. The experimental project can certainly not be presented as a panacea for deep educational ills. Nevertheless, it is contended that this method not only has certain important advantages over the more traditional methods but also offers, with respect to training in basic scientific inquiry, some unique values. Its major values may be summarized as follows:

1. *Increased Motivation.* The project provides a problem situation which *requires* an active attitude and is almost certain to be more challenging to the student than the formal project. Laboratory work becomes more meaningful, and learning is correspondingly facilitated. The shift of responsibility from the instructor to the student gives the superior student especially an opportunity for development seldom provided in the more traditional situation. The arousal of active interest in laboratory work, which is empirically found to be a striking phenomenon at all ability levels, affords a sharp contrast with the routine, "cook-book" type of approach customarily engendered by the more artificial and detached formal exercise.

2. *Operational Orientation.* The experimental project type of course may be expected to be particularly effective in fostering the development of an operationally oriented point of view towards psychological problems. This type of training tends to encourage the asking of narrow, experimentally feasible questions rather than broad, experimentally less meaningful ones. The need to work up ideas into testable forms should also contribute to the recognition of the importance of

*discovering new variables*, the necessity for which has recently been emphasized by Cantril *et al* (2).

3. *Experimental Sophistication.* The experimental project method, with its emphasis more on design and procedure than on results, makes possible the demonstration of the real difficulties and pitfalls in scientific work, the role of errors and uncontrolled factors throughout the design, execution, and interpretation of the experiment. The making of errors in this kind of situation is of great potential value so far as the experimental sophistication of the student is concerned. Such errors, and the countless annoyances and unexpected problems which one encounters in actual experimentation, should be just as important a part of the student's training as the more pleasant consideration of conclusions from data. As a matter of fact, they are probably more significant in that they provide the student with a far more realistic picture than the latter. It is precisely the over-emphasis on pre-arranged techniques and results which, in the case of the formal exercise method, tends often to lead to a dangerously distorted impression of experimental work.

In summary, it may be stated that the kind of learning that is involved in the actual performance of an experiment is in certain respects primarily different from the kind provided by the formal exercise or the lecture. The student who has actually performed an experiment may not be able to recite a long list of uses for various kinds of apparatus, or give other concrete evidence of formal learning—but he is very likely to *feel* considerably different about experimental method, and to have a more basic *understanding* of it. This is the kind of experience for which there is no adequate substitute.

#### DIFFICULTIES OF THE EXPERIMENTAL PROJECT

Certain questions may well be raised concerning the practicability of increasing the number of experimental project laboratory courses, if one is convinced of the desirability of doing so. These may be summarized around the following pivotal topics:

1. *Students.* Which students are to be involved in the experimental project type of laboratory course is a difficult problem, especially in those schools where selection standards are low and students numerous. A broad course background in



psychology is probably the most important prerequisite for the experimental project. In other words, I think it ought to be restricted to advanced majors, preferably seniors, and perhaps beginning graduate students who are not ready to start their thesis work. An elementary knowledge of statistics is probably the most important of the technical qualifications, but in general my feeling is that other such requirements should be secondary. The particular project can be fitted to the qualifications of the student. Previous laboratory experience, while desirable, would not be essential.

The future graduate students with the most to gain from this sort of laboratory course are probably those going into the clinical and applied areas. What they need above all else from their experimental courses is a critical understanding of experimental method and the ability to design as well as perform experiments. As Krech (3) has pointed out, the transfer value of specific experimental techniques from one field to another may well be questioned. Professionally oriented students will need to develop their own specific techniques to apply to their own particular problems.

2. *Courses.* When to offer such a project program is another difficult problem, in view of the enormous variability in academic curricula. Three specific suggestions may be made:

a. Ideally, perhaps, a special individual course would be offered for all senior majors, somewhat comparable to the senior thesis course required for graduation in a small number of schools. It seems to me that the value to be gained from active prosecution of a small-scale experiment is far greater than that from a non-experimental senior thesis, although there is of course no reason why these should be made mutually exclusive. The major difficulties with this plan would be administrative, particularly the great load it would place on the instructors.

b. A more practicable plan, for most departments, would probably be to offer the experimental project as a second laboratory course, requiring it of as many students as could be handled with available staff. This course could be used to train groups of students in various aspects of scientific inquiry. Certain of the general mechanics could be taught by lecture and group discussion, with individual projects handled on an individual conference basis.

c. The project might be offered in connection with the laboratory part of an advanced subject-matter course, such as learning, comparative, motivation, sensation, emotion, etc. Certain of these lend themselves most readily to this type of treatment—e.g., learning and comparative. Any loss in representativeness of laboratory experiences could either be offset by increased use of demonstrations, or could be ignored. The major advantage of this plan is administrative—it enables the instructor to plan a group of projects within the same general area, perhaps having several on various phases of the same problem. A possible disadvantage is that it divorces the laboratory work almost entirely from the lecture, although in view of the objective this may not be too disturbing. Attempts to compromise and use both approaches in the same course do not seem to be entirely satisfactory, largely because the experimental project to be most effective must be run through the full term.

3. *Instructors.* A shortage of qualified and interested instructors is, in my opinion, the most serious bottleneck in any attempt to utilize the experimental project type of laboratory training. To be qualified an instructor should have adequate training and strong interest in experimental methodology, and be prepared to suggest sets of related problems to students at their own ability level. Certain resistances may be anticipated from some instructors, chiefly perhaps because of preference for the traditional formal methods. Also, there is no doubt but that in terms of time consumed in conferences and help with laboratory preparations the project method is far more trouble than the formal exercise procedure, which once established need not be radically changed, and which can more easily be relegated to an assistant. Nevertheless, it has been my experience that the increased profits which result from working with more interested students and more live problems largely compensate for the increased demands.

As one means of reducing the instructor's load advanced graduate assistants in the larger departments might be given varying degrees of responsibility, depending upon their competence and experience. Such assistance with the direction of small-scale research problems, in collaboration with a senior staff member, should be of far greater value to them than the routine direction of exercises and grading of formal reports, as far as their future research orientation and productivity is concerned.

4. *Apparatus and Space.* Technical problems of this nature are probably less marked in the case of the experimental project method than in the formal exercise method, which requires a wide range of set-ups. The great adaptability of the former method is thus seen to be an advantage. For example, in the case of learning and memory experimentation, all of the projects might involve only paper-and-pencil materials.

5. *Miscellaneous Administrative Problems.* In certain respects administrative problems may be increased in the experimental project method (for example, the difficulties with report deadlines, the parasitism of lazy or poor students, etc.). It has been my experience, however, that these do not form very serious obstacles and that appropriate measures can be taken to control them (for example, setting definite and early deadlines with grading-down penalty, restricting number of students on a project to two, etc.).

#### CONCLUSION

As an antidote to the preponderant emphasis on the traditional methods of the experimental course, it is recommended that academic departments give serious attention to the possibility of instituting at least one course in which either all or a selected number of advanced undergraduate majors can actually perform a small-scale experiment under

the direction of a qualified staff member. The only formal stress would be on the way in which the essential basic steps of all experimental inquiry are involved. It is expected that the benefits from such a course would fall not only upon the prospective graduate student, who will presumably be appreciably more sophisticated about his own thesis work, but also and perhaps more importantly upon the terminal undergraduate major, who will thus be given his only *active* exposure to experimental methodology.

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## Comment

### How Short Should Articles Be?

To the Editor:

I read with some interest the comments by Dr. Thorne on the space problems of psychological journals. In general, I think most of us are sympathetic toward the viewpoint of the editors of our journals. There are, however, a few points to be made on the other side.

I, for one, would very much hate to see a trend toward shorter articles which would lead to the practice of not presenting anywhere a reasonably complete statement of method, procedure, and subjects, and adequate statistical data. With all due respect to the American Documentation Institute, I am convinced that the best way to provide relevant information is in the article itself. It is extremely annoying to read an article which purports to present research findings and be unable to determine exactly what was done and how. A mere statement of results obtained is by no means sufficient for the use of research material; it is also essential to evaluate method and analysis. I doubt that psychologists should become mere collectors of the conclusions drawn by others. Often, indeed, it turns out that even expert research workers incompletely interpret their data. Unless the data are presented fully no one else can possibly make competent use of them. Nor can most of us be sure that we have effectively taken into account sources of error, all pertinent variables, etc. In the present state of psychology hardly any methods or statistical procedures are rigidly prescribed. Our problems are so complex and capable of so many different approaches that critical appraisal of results is necessary.

I agree that improved writing by psychologists in presenting their research would be a fine thing, but I question whether this can be achieved by the omission of tabular material, points of procedure, and pertinent literature. In fact, I believe there is already too strong a tendency to omit this information. For instance, a thorough review of the literature frequently shows that a piece of research is not so original or conclusive as an author supposes. Previous research usually bears directly on the interpretation of present results. The danger lies, I think, in the possibility that omission of the literature section would mean no attention to past research at all.

Finally, I would like to point out that graduate students are not only being trained in verbose style. They are also being trained, presumably, in scientific method and objective modes of thinking. I have known many graduate students who would be quite

delighted to abbreviate their statements of the literature, of procedure, and statistical method, or even to omit such material entirely. The effect might well be to reduce the net length of writing and consequently the net boredom. I wonder, however, how many of us would be willing to trust their work later on, as we are now quite willing to trust the scientific thoroughness of our older men, despite their "verbose style"?

W. EDGAR VINACKE  
University of Hawaii

Editor's Note: The Council of Representatives of the APA has requested authors to use the facilities of the American Documentation Institute. This letter states arguments for the other side of the case.

### Increase in APA Members Listed in Classified Telephone Directories

To the Editor:

As part of a seminar in Professional Problems at Teachers College, Columbia University, the names of

Percentage of advertisers who are APA members

	1947	1948	1949
1. New York.....	24	32	41
2. Chicago.....	24	20	40
3. Philadelphia.....	30	40	63
4. Detroit.....	33	50	55
5. Los Angeles.....	14	17	27
6. Cleveland.....	33	0	0
7. Baltimore.....	0	0	20
8. St. Louis.....	0	0	25
9. Boston.....	0	20	12
10. *Pittsburgh.....	0	0	0
11. Washington.....	0	0	33
12. San Francisco.....	8	8	18
13. Milwaukee.....	0	0	0
14. Buffalo.....	0	0	0
15. *New Orleans.....	0	0	0
16. Minneapolis.....	0	0	100
17. Cincinnati.....	40	60	75
18. Newark.....	0	50	100
19. Kansas City.....	0	0	0
20. *Indianapolis.....	0	0	0
Total advertisements.....	277	399	385
Number of firms listed.....	86	98	97
Number of individuals listed.....	205	248	284
Number of APA members listed.....	38	59	101
Percentage of advertisers who are APA members.....	18.5	25.0	35.5

\*No advertisements listed in local directory.

individuals advertising in the psychology sections of the classified telephone directories of the twenty largest cities from 1947 through 1949 were compared to the list of APA members, as published in the 1949 Directory.

As shown in the table, the total number of APA members who advertise has increased nearly threefold, from 38 to 101. The total number of individuals listing themselves as psychologists increased from 205 to 284. Three out of every ten persons listed in the psychology sections are likely to be APA members.

Large type, "come-on" advertisements were fewer in number in 1949, an indication perhaps that such methods are not as lucrative as their originators had anticipated. It is of further interest that in no instance did an APA member indicate his affiliation in the 1949 directories. This is in accord with the recommendation of the APA Committee on Scientific and Professional Ethics.

HENRY P. DAVID  
Teachers College, Columbia

### Censorship of Ideas

To the Editor:

I wish there might be further discussion in the *American Psychologist* of a proposal made at the Fifty-seventh Annual Meeting of the APA (*Amer. Psychologist*, November, p. 444), that an editor of an APA journal should not accept a manuscript on controversial subject matter without satisfying "himself before acceptance, as to the identity of the author, his professional competence and qualifications for originating the communication. . . ."

Isn't this proposal potentially dangerous? What is professional competence? Who is to determine it? The medical profession has set up clear standards of competence and then has tended to disregard the thinking of most outsiders. There is no objection to standards of competence. What is objectionable is the refusal to consider ideas from those who do not meet those standards.

Is there any doubt that medicine has been the loser because of the general assumption that any good medical idea must come from itself? Doctors frequently admit that they know practically nothing about the back. Is it really fantastic that organized medicine might learn *something* by more objective and open-minded consideration of the work of chiropractors who do not have the doctors' competence or qualifications? Laymen with experience with both groups generally feel that both groups have much to learn from each other.

There certainly is not enough known in psychology to justify even remotely the censorship of controversial ideas on the basis of the respectability of the authors. Perhaps this proposal has already been buried by the Committee on Publications to which it was referred,

but in view of the record of medical societies, it is disturbing that a psychologist should seriously propose that the publication of ideas should be judged not according to their merit but according to the standing or reputation of the author. If this proposal should be adopted and carried out, the APA could suffer from the dead rot and resistance to new ideas that is always nourished by censorship.

GEORGE K. MORLAN  
Springfield College

### Reply to Ansbacher

To the Editor:

The article in the February *American Psychologist* by H. L. Ansbacher presents an interesting summary of psychological techniques as applied to foreign workers by the Nazis during World War II. When we stop to reflect upon some of his points, however, they seem to raise some very serious questions for thoughtful psychologists.

Many of us, back in 1933, questioned the equanimity with which our German colleagues fitted their work into the frame of reference of Nazism. We felt that persons honestly concerned with human values would insist upon policies which must necessarily conflict with the Nazi system. I am sure this is not his intent, but Dr. Ansbacher seems to praise the German psychologists for adapting to the Nazi regime and doing their bit to make the "slave laborers" happy and to increase production.

"Even within a totalitarian state and dealing with forced labor it still is essentially the same psychology one would find in a voluntary situation within a free society." Does this say that the professional psychologist has no obligation to inquire about the larger social setting within which he is required to function? Or, more alarming, does it say that our industrial society so resembles Nazi forced labor that no differences appear? Does this indicate that psychology, applied to industry, takes no heed of the suppression of individual personalities? Perhaps, if our present-day industrial psychology cannot be discriminated from that practiced under the Nazis, the conclusion should be that American psychologists should blush.

It may be a matter of professional self-congratulation when our "same set of psychological principles holds universally," even under such a social system as that of the Third Reich. But somehow the future of the human race looks bleak when the specialists in human behavior, the one group intrinsically concerned with the free development of the individual personality, can function so normally under a totalitarian system dedicated to a denial of human values. Is applied psychology but an opiate to be administered, at the will of political or industrial executives, to ease a little



the pain of the involuntary worker? This is not my conception of the role of the psychologist in industry.

ROSS STAGNER  
*University of Illinois*

### The Practice of Psychology

To the Editor:

An attempt to formulate legislation designed to regulate what is loosely called the "practice of psychology" is a very sobering experience. Over a period of several months I had the opportunity to be a member of a committee of the Southern California Psychological Association (later combined into a similar committee for the statewide Association), appointed at the request of Councilman Kenneth Hahn, Chairman of the Health and Welfare Committee of the Los Angeles City Council, to formulate legislation that would control and regulate the professional practice of psychology in this state.

The need for some form of control of "psychology" is particularly great in California. Quacks of all kinds offer their services and prey almost at will upon a susceptible public. Anything relating to psychology has a strong appeal quickly recognized and exploited by commercially-minded persons. The great public demand for psychological services doubtless expresses a genuine need—a need that the present legitimate services are unprepared to satisfy.

As I have studied the problem of licensing for the professional practice of psychology, a strong conviction<sup>1</sup> concerning the development of psychology as a science in both its theoretical and practical aspects has developed in my mind. Briefly stated, the conviction is this: Psychology as a science of the whole man—the only psychology that is worthy of the name—cuts across so many different fields of study and practice, many of them well established and economically entrenched, that the "science of man" must yet be developed out of a large number of specializations.

This fact means that no single field of study as now defined and delimited can qualify as a true science of man, and for the same reason no single discipline as now constituted can or should wish to monopolize the complex areas of study and practice that psychology in its fullest sense implies. Therefore, at the present stage of the development of a science of man, it is practically impossible to formulate legislation that will meaningfully regulate the practice of "psychology."

Some illustrations will help to clarify this point. Medicine and religion are two of the oldest aspects of the study of man. Medicine originally concerned itself largely with the ills of the "body," religion with the

health and care of the "soul." Gradually the evidence has built up in support of the notion that man is a whole (an organism) and can be understood and hence guided or treated only in terms of all aspects of that whole. The health and welfare of the "body" is significantly related to the condition of the "soul." The doctors of the soul—the ministers—have been in recent years quick to recognize the sickness of the body and have referred such cases to "specialists." The medical profession, especially psychiatry, sometimes has been slow to recognize and refer cases that are predominantly sick of soul to those who are proficient in this area of man's nature. There is some evidence that the science of medicine may wish to consider itself the true and ultimate science of man and reserve for itself by law all prerogatives connected with the treatment of man in all his aspects. As much as one may respect the profession of medicine and the great service it has rendered mankind, it seems evident that no single discipline can hope to retain for itself alone the practice of the profession based upon the science of man.

The same argument would apply to religion. Some religious groups may wish to hold for themselves the sole right to deal with man's problems, denying the existence of other aspects of man than those usually called spiritual. Such attempts at monopoly from any source are in my judgment doomed to failure because they deny the most basic fact about a true science of man when and if it develops—namely, man is a very complex unity.

Religion and medicine are only two of numerous approaches to an understanding and treatment of man. Man is also a social being and his relation to his fellows has an important bearing on his happiness and general welfare. A virile science known as sociology has developed with many applied services, such as marriage counseling, guidance in interpersonal and intergroup relations and the like; education, and especially educational psychology, offer a wide variety of services involving psychological counseling, mental measurement, re-education, guidance, and even elementary personal therapy. Philosophy concerns itself with man in general and its adherents may become interested in practical wisdom for life which may be an important aspect of psychological healing and of the prevention of psychological disorder. The field of vocational guidance and personal counseling is very large and growing. The science of semantics is rapidly developing and is entering mental hygiene, both on the preventative and curative levels. The lawyer, especially in some types of practice, may give considerable psychological advice. Finally, the specialty designated as "psychology" and organized under that title in college and university catalogs should be mentioned.

<sup>1</sup> This conviction, of course, is personal and should not be interpreted as representing the point of view of other members of the Committee.

Still the list is not exhaustive, but merely suggestive of the complexity of the approaches which may be made to an understanding of man's nature and behavior.

The psychologist (defined as one who majors in that department in a university) may be inclined to consider his area of the study of man as the true and exclusive science of man. Perhaps the study of the whole man will eventually be called "psychology" but clearly we are a long way from such a complete science. In such a science there will be no room for a spirit of monopoly and narrow sectarianism.

It seems to me that the science and the profession are developing, but as yet both the science and its application are in an early segmental and somewhat confusing stage. In the meantime a gullible and defenseless public suffers in many ways from untrained and unscrupulous persons posing as "psychologists." What can be done at this particular stage to protect the public and to stimulate the development of an effective science of man is a question as difficult as it is significant. One thing, however, is certain and urgent: the public welfare demands that there be a minimum of selfish, commercially motivated effort to forbid or limit services rendered by properly qualified persons, and a maximum of cooperation and mutual respect among all the sincere and informed branches of the developing science of man and its corresponding profession.

E. V. PULLIAS  
*George Pepperdine College*

### Testing Programs in Theological Schools

To the Editor:

As a member of the testing committee of Scarritt College, I was asked to make a survey of the testing programs in theological schools. An informal questionnaire was sent to the 40 accredited theological schools and 33 of them replied. Eighteen of the schools have a testing program (45 per cent). The tests which are most frequently given are with two exceptions the standard psychological tests: 12 institutions give personality inventories and tests, 12 institutions give tests of intelligence, 12 institutions give interest tests, 6 institutions give language skills tests, 4 give tests of academic ability, 4 give tests of religious concepts, and 2 give tests of aptitude.

The Andover-Newton Theological School gives its own tests. One correspondent pointed out that the graduate record examinations contained no section for testing majors in philosophy and religion.

In general, the theological schools that had testing programs were quite enthusiastic about them.

ALLAN G. BURT  
*Scarritt College*

### The Undergraduate Course in Experimental Psychology

To the Editor:

The present note concerns itself with the establishment of a *minimal-level* program for undergraduate courses in experimental psychology.

The recent report by Sanford and Fleishman on the diversity of college courses in psychology must either be disconcerting (as it was to the writer), or leave one cold and disinterested. Do we really require so many courses? Would it not be the better part of valor to at least have several key courses in a curriculum around which the other offerings are built? Could not the course in experimental psychology be one of these keys?

In a short note on essential courses for undergraduates by Dungan and Ekas, replies from 25 out of 27 graduate departments of psychology indicated that 22 of these departments considered experimental psychology to be essential. The point, therefore, of the primary importance of the college course in experimental psychology considered as pre-professional training need not be argued.

What is to be argued here is that what is required for the sound development of our undergraduate program in experimental psychology is a clear and official statement by the APA of a minimal level on which such a course is to be given. The writer proposes that a committee be formed with representation from the Division on the Teaching of Psychology and the Division of Experimental Psychology, whose task it will be to state the requirements for an APA approved course in experimental psychology. These requirements might be stated in terms of (a) course content, (b) equipment and facilities needed, and (c) qualifications of teaching personnel.

If agreement could be reached by the committee, and a clear statement produced, then certain courses could be marked as meeting the minimum requirements of the APA.

Some of our colleagues might inquire as to the usefulness of such a procedure, when their current courses are admittedly of a superior quality. For these first-rate departments, no advantage would occur. For the majority of college departments in minor institutions, however, much is to be gained.

Departments in many of the smaller colleges demonstrate the vestigial remains of older connections with philosophy and education. Many college administrators are not really sure of the needs of the psychology departments in regard to expenditures for such things as laboratories, equipment, or shops. The usefulness of an extra-college rating and the concomitant pressure it creates in the mad scramble for limited college funds should be apparent.



A mechanism suggested here is currently in use by the various engineering institutes (A.I.E.E., A.I.M.E., etc.) and by the American Chemical Society.

Is it worth considering for the undergraduate psychology course?

SHERMAN ROSS  
Bucknell University

### Seminar on Professional Problems in Psychology

To the Editor:

Here is the requested description of the seminar on professional problems in psychology which I have offered for four years. The course is now required of our first year graduate students and carries two hours credit. In planning this course it occurred to me that while we were doing a creditable job of teaching the graduate student the content and methods of psychology, there were three areas of considerable importance which were neglected insofar as formal instruction was concerned. These are represented by the three major sections of the course outline which appears below:

- I. Introduction
  - a. Purpose of course; preview.
- II. Literature search. The psychologist knows how to find material on psychological topics.
 

Objectives: to develop skill in efficient library research, the use of primary and secondary sources, the use of guides and other aids and to obtain a working knowledge of the wide distribution of psychological literature.

  - a. The need for knowing sources.
  - b. Bibliographical sources.
  - c. Collected sources.
  - d. Periodical literature.
  - e. Books. Building a professional library.
  - f. Government publications.
  - g. Library operation.
  - h. Techniques of library research.
- III. Scientific reporting. The psychologist knows how to prepare research material for publication.
 

Objectives: to develop skill in the oral and written scientific report, to effect good habits in reporting, to familiarize the student with the mechanics of publishing.

  - a. The construction of bibliographies.
  - b. The structure of journal articles.
  - c. Style in scientific reporting.
  - d. Form in scientific reporting (titles, tables, graphs, outlines, summaries, abstracts, etc.).
  - e. Structure of theses and other unpublished reports.
  - f. Minor forms of reporting; book reviews, abstracts, oral reports.

g. Selection of publication media; the problem of publication delay.

h. Ethics in scientific writing. Copyright.

i. Editing, printing and publishing as they affect the author.

IV. Professional problems. The psychologist is concerned with professional growth.

Objectives: to acquaint the student with the status of his chosen profession, to stimulate present and future concern over problems of a professional nature, to aid the student in identifying himself with the profession.

a. American psychology—history and present status of professional organizations.

b. Preparation for professional psychology; training problems.

c. Occupations and opportunities in psychology.

d. Status of psychology—academic and professional.

e. Current professional problems; ethics, licensing, certification.

f. Personal professional growth. Summary and outlook.

In addition to the course content as represented by the outline, the students participated in three group projects and were responsible for two individual projects. For section II, Louttit's *Psychological Literature* was used. Readings for the remainder of the course came from journal articles largely. A text on the material of this course is now being written in collaboration with C. M. Louttit.

At the end of the seminar, students are encouraged to write an evaluative critique. Acceptance of the course has been favorable, with the general agreement that it serves a complementary function to research methods courses. Students have frequently indicated a desire for more time and attention to Part IV and to the delivery of the oral report.

Courses of this nature are sometimes offered at the end of the graduate training program. The writer has felt that students need to master many of these techniques during the graduate career and that morale is improved through the early beginning of professionalization provided.

ROBERT S. DANIEL  
University of Missouri

### Seminars on College Teaching of Psychology

To the Editor:

Several graduate departments of psychology have recently initiated a seminar on teaching, and several more will do so in the near future. Through personal correspondence, I think I have learned most of the institutions where this is being done, and names of

faculty members primarily responsible for the seminar in each case. Since this particular kind of seminar is relatively new, publication of the list may facilitate correspondence among those who have taken on this responsibility or are considering doing so. This list includes only those who plan to offer a seminar in the formal sense. It does not include the now considerable number of departments where teaching assistants get direct training on an informal basis. My list: R. S. Crutchfield, California; John W. Stafford, Catholic University; Dorothy Martin, Colorado; Frank S. Freeman, Cornell; William K. Estes, Indiana; Willis C. Schaefer, Maryland; Wilbert J. McKeachie, Michigan; Carl P. Duncan, Northwestern; G. Raymond Stone, Oklahoma; Neil D. Warren, Southern California; Frank W. Finger, Virginia; Benjamin McKeever, Washington, Seattle; Wilse B. Webb, Washington, St. Louis; Eleroy L. Stromberg, Western Reserve.

Several of those named above gave me brief descriptions of their seminars. These were not written for publication but with some adaptations they may be cited to show the kinds of content being employed. Examples follow:

"Critical approach to presentation of psychological material in publication, lectures, demonstrations, etc., with emphasis on content, evidence, and significance of material, and relevant techniques of presentation."

"Discussion of subject matter and how to present it; construction and use of examinations; visiting classes and reporting on methods; teaching a small section of general psychology under supervision."

"Getting a job; fields of psychology; kinds of academic institutions and departments; professional problems of the teacher (teaching assignments, research expectations, promotion, membership, attendance and participation at meetings, ethical matters). Purpose of general and professional education; curriculum rationale and analysis of specific courses; lecture discussion, laboratory, seminar tutorial and demonstration techniques; laws of learning; administrative routine."

"Subject matter essential to the introductory course; presentation methods, discussion leadership; methods for dealing with student questions; procedures for evaluation of achievement."

CLAUDE E. BUXTON  
Yale University

### Learning vs. Training for Graduate Students

To the Editor:

We are putting, it seems to me, the cart before the horse with all this talk about "training" graduate students. We psychologists should know that the learning process depends primarily on the active participation of the learner and only indirectly on the trainer. We, the "teachers," "train" graduate students only by

providing the facilities—material and verbal—for their ready learning and by setting up the situations most likely to induce motivation. Do graduate students learn in courses? They learn some things, though less than the instructor himself who is the more active participator. The best educational strategy would make the taking of courses incidental to the total learning process that terminates in a PhD. The way to get a PhD, a good one, is to live a life of scholarship and research for three or four years under the conditions most likely to stimulate intellectual development toward a prescribed maturity.

A *curriculum* is a course, a race-course, a race that absorbs the total endeavor of the runner until the goal is reached. We distort the meaning of the word *course* when we think of it as a fixed element in the big race, and of the race itself as an *Und-Verbindung* made up of so many courses glued together. The purpose of this note is to give an alternative picture of the graduate curriculum, the race to the PhD from which so many runners retire winded. I shall speak only about learning to be an experimental psychologist because that is the field I know well. May be it is different with the "training" of clinical psychologists—but may be it is not so different as we are sometimes told.

Suppose, now, I were asked how one hundred AB majors, each aspiring to a career in psychology, could best be turned into good experimental psychologists; how would I reply? As I formulate my answer let the reader beware. There is no university which achieves this ideal, not Harvard nor any other place. It is my ideal and some of my colleagues share it, but scarcely all of them. I doubt if all the specifications for this situation can be got into words. When I see this system working—and I often do—I realize that I do not know what makes it work, what catches the loyalty and enthusiasms of the student, what makes him confused about the distinction between work and play.

Let me say also that it is from these limitations that I derive my despair when I am asked the question: How can the clinical psychologist be "trained" in experimental psychology or in scientific method? I do not know how he can. What he needs is to mature by soaking up attitudes about experimental research and he can do that from an atmosphere with which he is identified if he has the time—the years—for it and if he is able enough. How he is to get it as an incident of other "training" I do not know.

Now let us get down to particulars. What should we do first with these hundred AB majors? We must begin, certainly, with selection. A thorough personality assessment of the candidates would be desirable, but lacking that, we might be willing to settle for three letters of recommendation, discussing defects as well as virtues, and a score on a test at least as good as the

Miller Analogies Test. Let us put the threshold on the MAT at 80, not 70, hoping always for 85 or more. There are not the funds available at present in America to provide opportunity for the average man with an MAT score of 70 to reach the PhD goal in experimental psychology. Let us suppose that we have now cut down the original hundred to forty.

We must assume that considerable motivational selection has already operated. These students would not have become "candidates" without a strong desire for the PhD. There would be, however, continued selection after they get into graduate study, and perhaps half of those who started would drop out before the goal is reached.

So now we have forty, highly motivated, bright young men to make into experimental psychologists. What do we do next? We separate them into groups and send them to different places. Forty is too many to form the social unit in which learning is optimal.

Ideally no one laboratory would admit more than ten new students a year. Of those ten, perhaps seven would last into the second year and five into the third, presently reaching the PhD goal. In such a group the older students would become as important as the "teaching" staff in imparting information and establishing atmosphere.

The staff must be occupied mainly with research and scholarly pursuits. They would give "courses" because they want intellectual contact with the students, and that helps to systematize the students' development. It is essential that the motivational level of the students be of the 80-hours-a-week, 50-weeks-a-year variety, with holidays and Sundays good fun because they afford a chance to "work." Students who know the difference between "work" and "play" would not last in this atmosphere. The young and vigorous members of the teaching staff would establish the atmosphere. The old chaps in their fifties are likely to have dropped down to sixty hours and to be taking a month off in summer. Fortunately, the tradition would probably carry on in spite of them.

Every graduate student would have access to the laboratories at all times and have a place there to work. A locker is not enough. He must have a chair, a table, and a book-shelf. Half a dozen graduate students packed into a room that was their own would build up an interpersonal situation with more educational (educative) value than any other factor in that overstressed essential of graduate work called "residence." Such social contact would also have therapeutic value for potential isolates. It goes without saying that these students, each with his personal niche and seat of learning, would have keys to the laboratories. To take away a student's key on account of its misuse

would come near to blocking his progress toward the PhD. And there must be books available. There ought to be accessible at least a small working library in the laboratories, composed not of specialized or expensive books but of standard volumes for study and reference.

Meanwhile experimentation would go on. A student with an idea would be encouraged to try it out. In such an atmosphere of productivity, experiments and publication by graduate students would not be limited to PhD theses. Here, as with the books, the students would learn by doing.

What you would get in this social unit would be a congeries of older and younger instructors, older and younger graduate students. Everyone of them would be available for talk with every other one, and some of the best talk would happen late at night with the talkers sitting on tables. That is the free side of group endeavor. At the same time there would be hierarchy, for the staff must be constantly assessing the graduate students and judging whether they are likely to achieve the precious PhD or whether they should be encouraged to find some other relation to life. There would be courses, but courses are not the essence of residence. There would be examinations, many of them, and the constant process of assessment would be pointed up by performance in these examinations. There might be examinations in courses, in proseminars, sometimes in seminars, in the foreign languages, in statistics, in the general examinations for the PhD, all before the final examination of the thesis and the oral defense of it.

The men who had miscalculated their futures would drop out. The first-year ten would become the second-year seven who would become the third-year five. After friendly advice they would try other fields, and only a few would leave bitterly with a sense of having wasted time. Those who reached the goal would have developed. They would not be the same persons who undertook graduate work after an AB. They now would know something about experimental work, something about scholarship, a great deal about psychology. They would think of the PhD as something very important to them but not as a reason for letting down on research effort. Rather they would see that the PhD frees them for research and for what goes with it—teaching as a rule—and allows them at last to become their own masters in the pursuit of knowledge. The business of graduate study is the acquisition of maturity, the special maturity of the scholar and researcher. It is gained by growing up in the right social and intellectual atmosphere.

EDWIN G. BORING  
*Harvard University*



THEODORE M. NEWCOMB

*Professor of Psychology and Sociology, University of Michigan*  
Board of Directors, American Psychological Association



## *Across the Secretary's Desk*

### A PERMANENT HOME FOR THE APA

Since September, 1946, an old residence at 1515 Massachusetts Avenue N.W. has served both the APA and the American Association for the Advancement of Science as their national headquarters. The APA leases from AAAS the seven rooms of the third floor and one room in the basement. It also uses part of the attic for storage space. All of this adds up to about 2,000 square feet of office space. This space is slightly, but not yet uncomfortably, crowded by eleven and sometimes more people, 22 filing cabinets (one of which is in a bathroom), a number of boxes of records which the filing cabinets will not hold, a library consisting of the bound copies of journals published by the APA, a mimeograph machine, an addressograph machine and the files of stencils, a small stock of back journals for sale, and the supplies and miscellaneous things that an office inevitably needs and acquires. How much larger the office will have to grow I do not know. But we are at about the capacity of our present space now and the Association goes on growing. Furthermore, the Association assigns additional duties to the central office, such as the instruction to establish an editorial service for all journals. Certainly the amount of space needed in the future will be greater than it is now, even though it will not increase as rapidly as does the membership.

The present financial arrangement with AAAS is simple, and highly satisfactory. We pay one-third of the maintenance cost of the building—including light, heat, janitor service, and repairs. We also pay four per cent interest on one-third—less \$5,000—of the capital investment in the building. The "less \$5,000" means that AAAS treats a 1946 contribution of that amount to their building fund as a payment on our fraction of the building, and credits us with four per cent interest on \$5,000 each year. The rental varies from year to year, but has never been less than \$2,000 or more than \$3,000.

AAAS owns four other smaller houses as well as the one we jointly occupy, giving them ownership of the entire trapezoidal block circled and labelled AAAS on the map. Ever since the property was purchased, AAAS has been planning to tear down the five old houses and erect a modern office building. Just when construction will be started is un-

certain. But that will happen sometime, so the APA can not occupy its present quarters indefinitely. Like any tenant, we must consider where we are going to move. There are the usual options. We can rent or we can buy. We can look for a new place with its modern conveniences or we can look for an older place which will cost less. We can have a building of our own or we can share a building with others.

Whatever we do when the present building is torn down, we will probably want to remain in the same section of the city. We are close to the Carnegie Institution, Science Service, the National Education Association, the American Chemical Society, and the Veterans Administration. The American Council on Education is in the process of moving to the corner of 18th and Massachusetts. We are close to a number of hotels and close to transportation lines so it is easy for visitors to get to the office.

When the present building comes down, one possibility will be for the APA to build or buy a building of its own. Constructing a new building would have the advantage of giving us a place designed specifically for our needs. It would give us the advantages of sole ownership and occupancy so that we could manage things as we wanted them. It would have the disadvantage of greater cost per square foot of space than would be true of a larger building containing a number of offices. And it would require the additional work of managing and maintaining the building.

A more likely alternative would be to purchase a building. That is a more attractive possibility in Washington than in many other cities. For in Washington many of the fine old residences are used as association headquarters instead of becoming rooming houses. The buildings owned by AAAS would hardly class as "fine old residences," but such places are available. The APA might, like Science Service and a number of other organizations, convert a town house of earlier vintage into an office. What would be available at the time we decided to purchase is uncertain, but here is one example from the present market: On Massachusetts Avenue between Scott Circle and Dupont Circle is the former home of a wealthy senator. It contains about 8,000

square feet of floor space and is priced at \$80,000. Some additional expense would be required to put it into good condition. It is larger than we need. (We could probably rent part of the space to some appropriate tenant.) It is not air conditioned. It is moderately ugly. But it could serve as our office and is serving now as the office of a medical association. It is in a good location, and it would give us both the advantages and the disadvantages of separate ownership and management of a building of our own.

Another alternative is to lease space in a building which contains other offices. Several new commercial office buildings have been constructed in Washington in which space costs between four and five dollars a square foot. The large and once very fine apartment house which the American Council on Education has purchased contains considerably more room than they need. Space is available to related organizations at \$2.50 a square foot. Leasing space either in a commercial office building or in one like the ACE building would increase our rent considerably over the present figure. We could, however, secure better and ampler space than we now have. We would be free from the responsibility of building management. On the other hand, we would have the disadvantages of being renters.

Another possibility is to have space in the new AAAS building when it is erected. Until March, 1950, AAAS planned to construct a modern, fire-proof office building eight stories high which would house not only their own offices but the headquarters of a number of affiliated associations as well. As recently as the December, 1949 meeting of the AAAS Council, the building committee was authorized to draw up definite plans both for the erection of the building and the securing of necessary funds.

It is still possible that AAAS may construct such a building. But the possibility has suddenly become a remote one. For in March the executive committee of AAAS reviewed the tentative plans and decided that instead of erecting a large building for a number of association headquarters, they would erect a small building that would house just the AAAS and the APA if we want space in their building.

They do not want us to own part of the building—as was originally planned—but will be glad to plan the building for our needs as well as their own, with the expectation that the building will be ample

for both associations for a good many years to come. However, if the time comes when they need all of the space, we will have to make other arrangements.

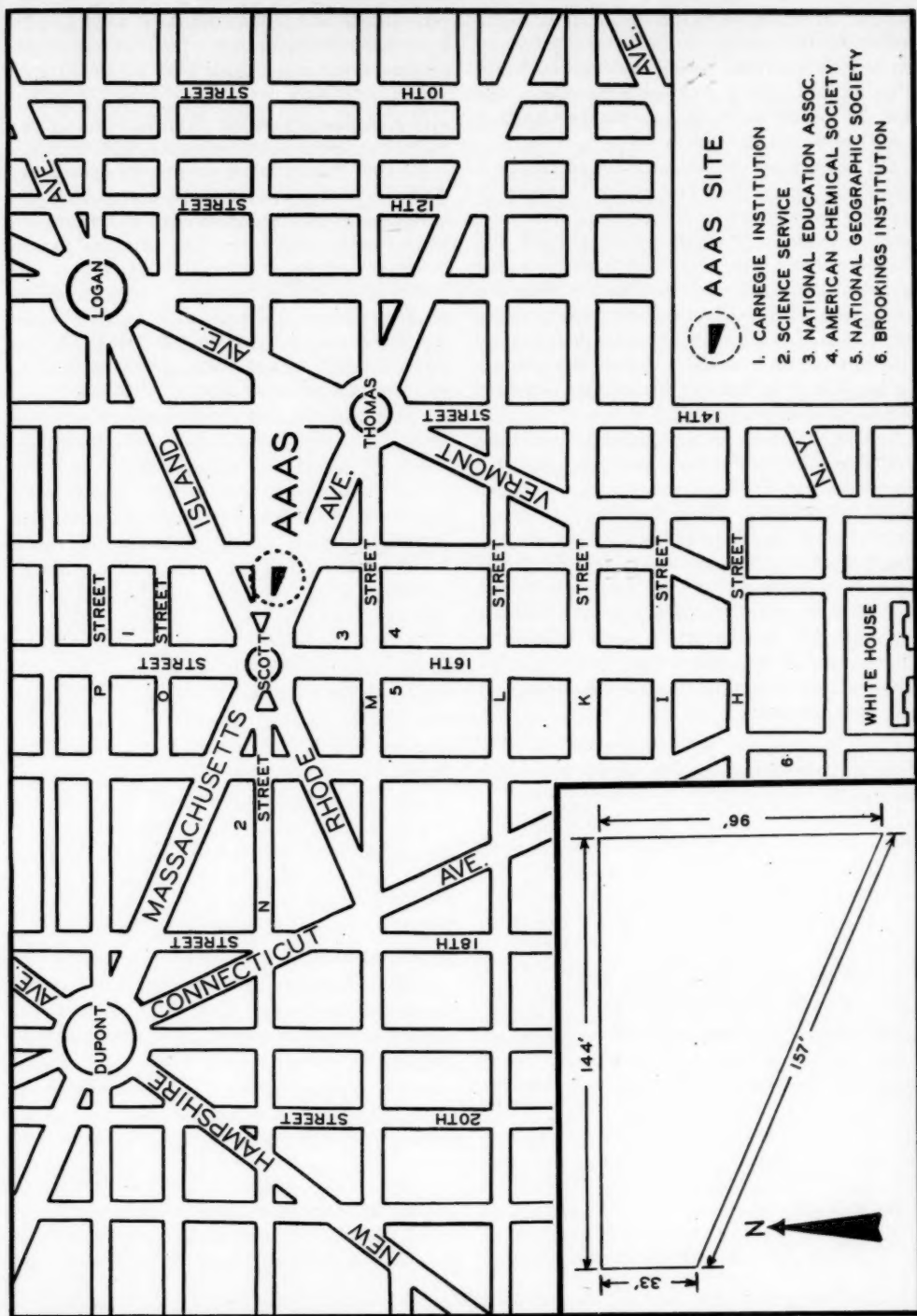
If this plan is carried through—and that now seems reasonably likely—construction will probably begin early in 1952. One of the other houses on the lot is leased until the end of December, 1951. Then AAAS can begin to tear down the present houses to make way for the new building.

These plans are too recent to have allowed time for detailed cost estimates. We would, however, continue the present financial arrangements, paying four per cent annually on a fraction of the building cost and paying our share of the maintenance expenses. A very tentative guess is that the annual cost would probably amount to between two and three dollars a square foot.

The advantage of this arrangement would be the occupancy of a new building designed for our use but with AAAS taking the responsibility for building management. The disadvantages of the plans are that they are still uncertain, and even if they go through, we would have space only as long as AAAS does not need it.

There was another alternative, and it is the one that has been considered in most detail by the APA officers and Council. It was to own space in the large AAAS building much as one owns his own apartment in a cooperative apartment building. The recent decisions by AAAS make that plan impossible. However, believing that that plan would materialize, in 1946 the APA Council voted a contribution of \$5,000 (as previously mentioned) to the building fund of the AAAS. At the same time the Council voted "to establish a fund to be known as the Building Fund, to receive individual contributions to the Fund, and to appropriate \$5,000 from the 1947 budget to this Fund." This fund remained in the APA treasury. In 1947, in 1948, and again in 1949, the Council added another \$5,000 a year to the APA Building Fund. At the Denver meeting in 1949 the Council also "voted that \$40,000 be transferred to the Building Fund from unallocated surplus." Including the \$5,000 that appears in the 1950 budget, the Building Fund now amounts to \$60,000 in addition to the original gift of \$5,000 to AAAS.

We therefore have \$60,000 set aside for the purpose of helping to pay for our share of the AAAS building. We can no longer plan to use it for that



purpose. If we decide to lease space either in the smaller AAAS building or elsewhere, that money can be returned to the Association's general funds. If we decide to build or to buy a building of our own, the \$60,000 can be used for that purpose, but it will not be enough.

The amount can be increased by adding to it from the income of future years. If necessary, it can also be increased by contributions from individual members. When the Building Fund was established, the treasurer was authorized "to receive individual contributions to the Fund." None has been received, but no effort has been made to secure any. No generalized effort will be made unless the APA decides that it wants to own its headquarters building and finds that contributions are necessary to help pay the cost.

The Association is not committed to any of the possibilities described above. Before deciding, the advantages and disadvantages of each alternative should be considered. When the Council of Representatives took up this matter at the 1949 meeting, they decided that they wanted an advisory vote of the entire membership. I was therefore instructed to publish an article describing possible building plans and then to circulate an advisory ballot to all members of the APA. That ballot is being mailed with the 1950 annual election ballot. It asks two questions:

1. Do you approve the intention of the APA Council of Representatives to secure permanent office space?
2. Considering the advantages and disadvantages of the various possibilities, which of the following alternatives are you inclined to recommend?
  - a. Constructing a new building of our own.
  - b. Purchasing a former residence and converting it into the APA office.
  - c. Leasing space in the AAAS building.
  - d. Leasing space in some other building.

The votes on both questions will be purely advisory since the alternatives are, at this stage, necessarily still indefinite. The votes will, however,

very greatly assist the Council in deciding what they should do when it comes time to make definite decisions about a permanent home for the APA.

## MICROPHOTOGRAPHS OF APA JOURNALS

Methods of reproducing out-of-print journals and methods of reducing storage space for journal files have been attracting a good deal of attention by librarians and publishers. The APA has recently made two arrangements in this field.

Microfilm copies of the *Journal of Abnormal and Social Psychology*, the *Journal of Applied Psychology*, the *Journal of Experimental Psychology*, and the *Psychological Review* can now be secured for an entire volume on a single strip of film. They are made by University Microfilms, Ann Arbor, Michigan, which has been given non-exclusive permission by the APA to reproduce them. In return, the APA will receive a ten per cent royalty on all copies sold. The cost for a volume on microfilm is about the same as that of having the volume bound. Microfilm copies of single articles are not available. Copies of entire volumes will be sold only to regular subscribers.

The first 16 issues of the *Psychological Monographs* (long out of print) are now available on 31 microcards for \$8.25 from J. S. Canner & Company, 909 Boylston Street, Boston 15, Massachusetts. Microcards are 3" x 5", the size of an ordinary library file card, but a little thicker. They contain, in ordinary-sized print, information about the content of the card and its library classification. The microcards, which reproduce as many as 52 monograph pages, require considerable magnification to be legible. They can be read through a modern flat field binocular microscope or, more easily, in one of the commercially available Microfilm Readers.

Both of these arrangements have been made in a relatively new and changing field. I expect that there will be other developments to announce within the next few years.

DAEL WOLFE



## *Psychological Notes and News*

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**Axel Brett**, chairman of the department of philosophy and psychology at the University of Tennessee, died of a heart attack on April 9, 1950.

**J. V. Breitwieser**, dean of the school of education at the University of North Dakota, was killed in the Northwest Airline crash of March 7, at Minneapolis, while returning from a conference at Atlantic City.

**Adolf Meyer**, world famed psychiatrist and professor emeritus of psychology at Johns Hopkins University, died of a heart attack at the age of 84.

**David Katz** will give the Hitchcock Professorship lectures at the University of California, Berkeley, in May and will be free to visit his friends in June. He may be reached in this country in care of the department of psychology at Berkeley in May and early June.

**Arthur J. Bachrach** has been appointed chief psychologist of the University of Virginia Hospital, Charlottesville. He will continue his research affiliation with the Society for Crippled Children, Cleveland.

**Ernest R. Hilgard** will be a visiting professor at the University of Hawaii during the six-week summer session, June 26 to August 5.

**Collins W. Burnett**, formerly of Fresno State College, was appointed in February to the position of coordinator of student personnel of the College of Education at Ohio State University. His academic rank is assistant professor.

**Harold Guetzkow** of the University of Michigan has been appointed associate professor of industrial administration and psychology in the new School of Industrial Administration at Carnegie Institute of Technology in Pittsburgh for the coming academic year. He will conduct researches on the social-psychological aspects of administrative processes.

**Nicholas Hobbs**, associate professor in the Department of Guidance at Teachers College, Columbia University, has been appointed professor of

psychology and chairman of the department at Louisiana State University.

**Mary Henle** of the New School for Social Research was granted a Guggenheim award in order to study the influence of needs and attitudes on perception, memory, and other mental processes.

**Hugh C. Blodgett** has been appointed visiting professor at the University of California, Los Angeles, for the spring and summer sessions.

**C. R. Carpenter**, professor of psychology and director of the Instructional Film Research Program at Pennsylvania State College, is on leave from February 1 to May 31 of this year, under a traveling fellowship sponsored by the College and the Carnegie Corporation, making a study of graduate school organization and research administration in representative colleges and universities of the United States and Great Britain.

**Peter A. Gilbert**, formerly of Pennsylvania State College, and **Homer G. Woods**, formerly of Purdue University, have joined the staff of Rohrer, Hibler and Replogle. They will be in New York and Chicago, respectively.

**William Wissell**, formerly of Purdue University, and **Roland C. Casperson**, formerly of Johns Hopkins University, have joined the staff of Dunlap and Associates as research associates.

**Margaret Kuenne Harlow** has accepted appointment in the APA office beginning June 1. She will establish and conduct the editorial services for APA journals authorized by the Council at the Denver meeting. Her appointment is for the 15-month period from June, 1950 through August, 1951.

**Harry F. Harlow** has been appointed Scientific Advisor (Military Psychologists) to the Research and Development Division, Office of the Assistant Chief of Staff G-4, Department of the Army. He is on a consulting basis at present. The University of Wisconsin has granted Dr. Harlow a leave of absence for the academic year 1950-51.

P. S. de Q. Cabot has been appointed consultant to head a new Department of Human Relations with the firm of Stevenson, Jordan and Harrison, Ltd., 30, Windsor House, 46, Victoria Street, London S.W.1. Dr. Cabot was formerly personnel consultant with Booz, Allen and Hamilton.

**Reservations for 1950 APA Convention.** The Committee on APA Registration and Housing for the 1950 meetings at State College, Pennsylvania, reports that requests for accommodations in the Nittany Lion Inn and the State College Hotel have already considerably exceeded the number of rooms available in these hotels. The Committee is assigning accommodations in the order of request, and therefore asks that members not ask to be placed in these hotels, but state their other preferences.

The accommodations in the dormitories of the Pennsylvania State College which are renting at \$2.50 per person per night are exceptionally attractive ones.

There is also little chance that many more applicants can be assigned to single rooms, since few are available, and a large number have already been requested. The demand on housing in State College for that week is very heavy, and doubling up will be necessary. It would therefore be appreciated if members would state their preferences for roommates, or even better, if those persons who are willing to room together would send in their requests in the same envelope, but on separate application forms.

When advance payment is included with the application (to eliminate the necessity of appearing at the registration headquarters), this payment should be *in full*, and not just a deposit. Refunds will be paid where part of the period requested is later cancelled. Checks should be made out to *Committee on A.P.A. Registration*.

The advantages of pre-registration are much greater at Pennsylvania State College than in the usual hotel situation where reservation and room clerks are on 24-hour duty. For pre-registration, use the form in the March, 1950, *American Psychologist*.

**Traffic regulations for the State of Pennsylvania.** The Committee on Arrangements for the 1950 APA Convention at State College wishes to warn APA members that traffic regulations are

strictly enforced in the vicinity of State College. Driving following the use of alcoholic beverages, including beer, has a penalty of a \$100 fine and 10 days in jail. Fifty miles is the state speed limit, strictly enforced. The drivers of Pennsylvania and New Jersey cars, and the drivers of cars from states with which Pennsylvania has reciprocal arrangements, will be deprived of driving privileges throughout their visit.

**The Thirteenth International Congress of Psychology** will be held at Stockholm July 16 to July 21, 1951. Those members of the APA who desire to attend should get their transportation reservations as soon as possible.

**1950 Directory cards**, asking members for the latest information concerning themselves, will be mailed about May 15. If you have not received yours by June 1, please write for a duplicate.

The APA office will complete a member's entry from the latest data available from other sources, if the member does not return the card. We hope for 100 per cent returns, as the card is very short. It asks only for name, address, latest job title, institution if not included in the address, latest earned degree and date of degree. Various classes of membership are added by the APA office.

The 1950 Directory will resemble the 1949 one. A biographical directory will be printed in 1951.

**The Indiana Psychological Association** is the new name of the Indiana Association of Clinical and Applied Psychologists. It has broadened its objectives and eligibility for membership in keeping with this change of name.

**The International Council for Women Psychologists** has elected the following officers for 1950: Gladys C. Schwesinger, president; Mary Ford, vice-president; Naomi Ekdahl, 854 Main Street, Winchester, Massachusetts, secretary-treasurer; Evelyn M. Carrington, Texas State College for Women, Denton, Texas, editor of newsletter; Miriam C. Gould, 333 East 30 Street, New York, New York, co-editor of newsletter.

The Board of Directors includes Emily A. Dexter, Cecile White Fleming, Margaret Ives, Wilda Rosebrook, Anna Shotwell, Sara Stinchfield-Hawk, Dorothy Van Alstyne, and Margaret Wylie.

**The National League of Nursing Education**, under a continued grant-in-aid from the USPHS, is making a study of the desirable qualifications of all mental hygiene and psychiatric nursing personnel. Comments or suggestions concerning this study will be welcomed and correspondence may be addressed to Aurelie J. Nowakowski, Staff Assistant, Psychiatric Nursing Project of the National League of Nursing Education, 1790 Broadway, New York 19, New York.

**The Division of Clinical and Abnormal Psychology** announces the appointment by its Executive Committee of Harry McNeill as Associate Secretary.

**SPSSI officers** for 1949-50 are as follows: Daniel Katz, president; David Krech, vice-president; Eugene Hartley, secretary; Stuart Cook, Ralph H. Gundlach, Otto Klineberg, and Ronald Lippitt, division representatives.

**The Division on the Teaching of Psychology** has formed a subcommittee on research in the teaching of psychology. This committee is desirous of learning of research being done in this area. Descriptions of such research should be sent to Dr. W. J. McKeachie, Department of Psychology, University of Michigan, Ann Arbor, Michigan.

**The Louisiana Psychological Association** elected the following officers for 1950-51: Kenneth B. Hait, president; Paul C. Young, vice-president; Charles L. Odom, secretary-treasurer; Kenneth B. Hait, representative to Conference of State Psychological Associations.

**The education of veterans** has thus far cost the government \$8.7 billion for subsistence payments, tuition, books, equipment, and supplies. The number of veterans involved is 6,550,000.

Psychology was the major of 4,227 veterans as of November 1, 1949. The number of psychology students under the G.I. Bill has been declining slowly over the past three years. The 1949 figure was 18 per cent below the 1947 total of 5,146. The drop in enrollments in psychology courses was much less than the overall decline in college enroll-

ments of veterans over the same three-year period, which amounted to 37 per cent.

The deadline for most veterans for starting any course under the G.I. Bill is 13 months away, July 25, 1951.

**The University of Oklahoma** held a post-doctoral seminar entitled "Social Psychology at Crossroads 1950." The following psychologists lectured during the conference: Robert B. MacLeod, Cornell; James G. Miller, Chicago; John J. Volkman, Mount Holyoke; Roger G. Barker, Kansas; John H. Rohrer, Oklahoma; Harry F. Harlow, Wisconsin; Theodore M. Newcomb, Michigan; Eugene L. Hartley, City College of New York; and Leo J. Postman, Harvard.

**The University of Buffalo** held a Workshop on Human Motivation on March 16-18, 1950, with D. O. Hebb of McGill University as the chief speaker.

**The University of Michigan** announces the Third Annual Institute on Living in the Later Years to be held at Ann Arbor, Michigan, on June 28, 29 and 30, 1950. Persons interested in attending are invited to write to the University of Michigan Extension Service, 4524 Administration Building, Ann Arbor, Michigan, for further information.

**San Diego State College** is offering a six weeks' Workshop in Student Personnel Services, from June 19 to July 28, 1950. A special grant from the Rosenberg Foundation has made it possible to secure the following staff: Clifford E. Erickson of Michigan State College, Eldon A. Bond of the Spokane Public Schools, David H. Dingilian of the Los Angeles City Schools Guidance Center, William R. Grove of the Phoenix Elementary Schools, and Francis P. Robinson of Ohio State University. College credit will be given to those enrolled in the Workshop.

**The University of Denver** announces special programs for the summer of 1950 in guidance and counseling. Visiting professors will be C. Gilbert Wrenn of the University of Minnesota and Margaret E. Bennett of the Pasadena Public Schools.

The University of Colorado announces that Abraham Maslow of Brooklyn College will be a visitor there during the 1950 summer session, giving courses on "psychodynamic theory."

The University of Southern California will have as visitors during the 1950 summer session William A. Hunt of Northwestern University, Andrew Comrey of the University of Illinois, and Wayne Zimmerman of Brandeis University.

The University of California at Los Angeles announces that the following visiting lecturers will give courses in their specialties during the summer session of 1950: Hugh C. Blodgett of the University of Texas, Harry Helson of Brooklyn College, Donald B. Lindsley of Northwestern University, and Boyd McCandless of Ohio State University.

The University of Virginia announces that visiting professors in the summer session will be William M. Hinton of Washington and Lee University, James M. Porter, Jr., of Rensselaer Polytechnic Institute, and Robert C. Wingfield of Converse College.

Stanford University will have as visiting staff in psychology for its summer session Roger G. Barker of the University of Kansas and Alex Bavelas of Massachusetts Institute of Technology.

The University of Washington announces that E. H. Porter, Jr., of the University of Chicago will teach courses on non-directive counseling during the summer session of July 19 to August 18.

Pennsylvania State College announces that D. J. van Lennep of the University of Utrecht will be visiting professor for the Post-Session, during the three weeks immediately preceding the APA meetings there. He will be presenting a course on projective techniques, featuring his Four-Picture Test. Dr. van Lennep is founder and director of the Netherlands Foundation of Industrial Psychology and also professor of diagnostic psychology at the University of Utrecht. He plans to come to the United States early in the summer and will be available for lectures where arrangements can be made.

Claude Buxton is leading a seminar on Teaching Psychology in the Penn State Post-Session. George A. Muench will assist William Snyder in advanced courses and a practicum course on non-directive counseling.

The University of California, Berkeley, will have two summer sessions as usual, one from June 19 to July 29, and one from July 31 to September 9. Visiting professors in psychology during the first session include Frank A. Beach of Yale and Theodore M. Newcomb of Michigan. Visiting professors for the second session are Charles M. Harsh of Nebraska, Edna Heidbreder of Wellesley, Raymond G. Kuhlen of Syracuse, Paul Lazarsfeld of Columbia, William Stephenson of Oxford University, now visiting professor at the University of Chicago; Heinz Werner of Clark, Delos D. Wickens of Ohio State, and Kwang S. Yum of Seoul National University, Korea.

The University of Wisconsin announces that Walter S. Hunter of Brown University and Frank W. Hansen of the University of Minnesota will serve as visiting lecturers from June 26 to August 18, 1950.

The Johns Hopkins University wishes to call attention to its plan for admitting graduate students without the Bachelor's degree. Outstanding students may apply for admission after their sophomore or junior year and enter a program of work leading directly to the Master's and Doctor's degrees. In this program the student will save, on the average, one year in meeting doctoral requirements and one-half year on Master's requirements. For further information write directly to the Department of Psychology.

The New York Society of Clinical Psychologists, Inc., has organized a free job information and referral service for psychologists. The Society does not intend to displace or compete with any existing employment service, but wishes to serve the needs of the many psychologists in the New York area. Kindly address all requests for information and notices of job opportunities to the Sub-Committee on Employment Opportunities: Attention of Dr. Ida Linnick, 222 East 56 Street, New York 22, New York, or Mr. Thomas Tierney, 320 West 76 Street, New York 23, New York.



**Graduate assistantships** for 1950-51; stipend \$1000; graduate work offered to the MA level with opportunities for specialization in the fields of industrial, personnel, and clinical. Apply to Dr. Wilson McTeer, Acting Chairman, Department of Psychology, Wayne University, Detroit 1, Michigan.

**Graduate assistantships** in the College of Education will be offered to superior graduate students in several areas, including child development, educational psychology, guidance, measurement and evaluation, psychometrics, social psychology and its applications to education, statistical and research methods, or special education of exceptional children. Stipend, \$1200 for nine months or \$1400 for eleven months half-time duty; tuition exemption. Further information and application forms may be obtained from Professor F. H. Finch, 105 Gregory Hall, University of Illinois, Urbana, Illinois.

**Assistantship**, duties include grading in the elementary and social psychology courses; stipend \$1200 plus tuition. Apply to Dr. R. H. Knapp, Acting Chairman, Psychological Laboratory, Wesleyan University, Middletown, Connecticut.

**Postdoctoral residency** at St. Elizabeths Hospital, Washington, D. C., for a one-year period beginning September 15. Candidates must hold a doctoral degree in psychology with some training and experience in the clinical field. Stipend \$2200. The appointee is not required to live in the hospital but may do so if quarters are available, in which case there is a charge for maintenance. Application forms may be obtained by writing the Superintendent, Dr. Winfred Overholser.

**Child Guidance Clinic Supervisor IV**, MA and four years of experience required, including two years in a clinic or clinic team dealing with children's problems; duties involve professional and administrative responsibilities; salary range, \$4980-5700; also,

**Child Guidance Psychologist III**, MA and four years of experience required, including two years in a clinic or clinic team dealing with children's problems; duties include responsibility for the psychological department of a child guidance clinic; salary range, \$4020-4740; also,

**Child Guidance Psychologist II**, MA and two years of experience required, including one year in a clinic or clinic team dealing with children's problems (the experience may include one year of internship); duties include administering tests, including projective techniques, and conducting play therapy; salary range, \$3360-3840. Write to Dr. Samuel W. Hartwell, Assistant Director, Michigan Department of Mental Health, 403 Bank of Lansing Building, Lansing 16, Michigan.

**Child psychologist**, woman only, beginning September, 1950. MA in child psychology or clinical psychology preferred. The position is that of home visitor; duties involved are the interviewing of parents and the observation and rating of parent-child interaction. Salary in accordance with qualifications; also,

**Research psychologist**, beginning September, 1950. This is a senior staff position, involving primary responsibility for planning and conducting research in the area of personality development, with emphasis on the utilization of projective techniques and observations of parent-child interactions. Salary depends on qualifications; income may be supplemented by part-time private practice in counseling and therapy. PhD and research experience essential; clinical experience desirable. Address inquiries to Dr. John I. Lacey, Chairman, Department of Psychology, The Fels Research Institute for the Study of Human Development, Yellow Springs, Ohio.

**Clinical psychologist**, beginning July 1, 1950, either sex, age 24-40 years, MA, two years' experience preferably in a psychiatric hospital; duties involve intelligence and personality testing, with emphasis on projective techniques for both adults and children; beginning salary \$4848. Apply to Mrs. Meredith W. Green, Psychologist, Neuropsychiatric Clinic of Medical College of Virginia Hospital, Richmond, Virginia.

**Clinical psychologist**, beginning July, 1950, PhD or MA, two years' experience in projective techniques and in therapy with parents and children. Play therapy experience desirable; duties involve administration of Cattell Infant Scale and some community health interpretation; salary dependent upon training and experience. Apply to

James M. Robins, Executive Secretary, Erie Guidance Center, Room 322 Commerce Building, Erie, Pennsylvania.

**Chief psychologists** needed to fill existing vacancies at the Rosewood State Training School for feeble-minded children located at Owings Mills, Maryland, and at Springfield State Hospital for mental patients located at Sykesville, Maryland. Must have PhD plus five years' clinical experience as intern and psychologist. Maryland Merit System positions offer automatic salary increases plus vacation, sick leave and retirement benefits. Tentative salary scale is \$4658-5823. Mail inquiries to the State Employment Commissioner, 31 Light Street, Baltimore 2, Maryland.

**Clinical psychologist**, PhD or MA, with experience in testing infants. Children's Hospital and the New York State Department of Health have instituted a detailed study of the effect of different types of birth experience on the subsequent intelligence and physical development. Salary open. Apply to Dr. Elizabeth Dubs, 219

Bryant Street, Buffalo, New York, stating qualifications.

**Clinical psychologist**, as soon as possible, either sex, under 40, MA, with two years' experience (one of them in a state hospital or colony institution); duties involve study of adult patients arrested for minor crimes; beginning salary \$3200. Apply to the Psychiatric Institute of The Municipal Court of Chicago, 1121 South State Street, Chicago, Illinois.

**Chief, Attitude Research Branch**, Armed Forces Information and Education Division, in the Office of the Secretary of Defense. Duties involve coordination of attitude research within the Department of Defense; planning and execution of attitude surveys for the Secretary of Defense. Salary, \$10,000 base. Interested candidates who are broadly qualified in the administration and technical phases of attitude and opinion research should apply by filing Civil Service Form 57 with the U. S. Civil Service Commission, Washington 25, D. C., applying for the Social Science Analyst examination.

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